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CHARLES ELMORE C
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Supreme Court of the United States

OCTOBER TERM, 1936.

Nos. 35 and 36.

SAMUEL B. SMITH,

Petitioner,

vs.

A. B. HALL and L. C. HALL, d. b. a. HALL BROTHERS,

Respondents.

SAMUEL B. SMITH,

Petitioner,

vs.

JAMES MANUFACTURING COMPANY and ELMIRA HATCHERIES, INCORPORATED,

Respondents.

BRIEF FOR PETITIONER.

CHARLES NEAVE,
DEAN S. EDMONDS,
ALBERT L. ELY,
Counsel for Petitioner.

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IN THE

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BRIEF ON BEHALF OF PETITIONER.

The Opinions Below.

The opinions of the Circuit Court of Appeals for the Second Circuit (83 F. [2d] 217, 221), both rendered upon the same day, held invalid U. S. Letters Patent No. 1,262,860

(claim 1 in the *Hall* case and claims 1, 2, 3 and 5 in the *James* case), granted April 16, 1918, to Samuel B. Smith, reversing decisions of two District Courts which had held the patent valid and infringed (Hall R. p. 211; James R. II p. 1259).

Jurisdiction.

These cases are here on writs of certiorari under the provisions of Title 28, Section 347, of the United States Code.

Statement of the Case.

These two cases went to the Circuit Court of Appeals upon two different records, they were argued on the same day, and the Court of Appeals treated the cases as though the two records constituted a joint record applicable to both cases. We are, therefore, presenting the cases jointly.

The Prior Suits.

The Smith patent, here in suit, was held valid and infringed by this Court in two cases entitled *Smith* v. *Snow* and *Waxham* v. *Smith* (294 U. S. 1 and 20). The decisions of this Court in those two cases were rendered January 7, 1935. The decisions of the Court of Appeals for the Second Circuit in the instant cases were rendered more than a year later, and the patent was held invalid because of asserted prior invention, use and disclosure by a man named Milo Hastings. That defense was not presented in the *Snow* and *Waxham* cases decided by this Court (it was pleaded in the *Snow* case,* but no proofs were presented). It had been unsuccessfully presented in various prior suits.

In the *Snow* and *Waxham* cases, this Court was concerned primarily with the scope of the protection secured

**Snow* Record page 8.

by the Smith patent under its claim 1, which claim is involved in both of the instant cases. But in determining the scope of that claim, this Court examined and commented upon the evolution of the modern method of and apparatus for incubating chicken eggs as shown by the testimony and the prior patents, and held the Smith patent to be valid and of far-reaching scope. Thus, this Court said in the *Snow* case:

> "This history of the prior art serves to emphasize rather than to discredit the striking advance made by Smith in effecting the combination defined in Claim 1. More than the skill of the art was involved in combining and adjusting its elements in such fashion as to solve the major problems of artificial incubation" (294 U. S. 17).

And, as presenting the revolutionary character of the Smith invention, this Court said:

> "The commercial success of the new method was immediate and striking. At first the inventor devoted himself to developing his own hatchery for the use of the new method; it was the largest in existence, with a capacity of over 1,000,000 eggs. In 1922 he began the manufacture and sale of the new incubator. In ten years he, and a corporation which he had organized for the purpose, had made sales of incubators aggregating about $24,000,000, having a total egg capacity of over 188,000,000. The old type of incubator, with eggs arranged at a single level, all in a single stage of incubation, has thus become obsolete" (294 U. S. 7).

The patent has been the subject of continuous litigation extending over the past fifteen years. It has been reviewed by this Court, by five Courts of Appeals, by fifteen District Courts, and by two Masters appointed by District Courts, and a corresponding Canadian patent has

been passed upon by a Court of Canada. In all of these numerous cases prior to the instant ones, the patent was held valid*, as was noted by this Court in its opinion in the *Snow* case (294 U. S. 1), and in the cases at bar the patent was held valid by both District Courts.

The Hastings defense has been known since the beginning of the litigation of the Smith patent.

In the first case, *Buckeye, et al.*, v. *Wolf*, the history of Hastings' futile effort, including the complete Hastings file wrapper and many of the Hastings publications, was reviewed by Judge Westenhaver in the District Court for the Northern District of Ohio, and his conclusion was that Hastings had not contributed anything of value to the solution of the problem of mass incubation (291 Fed. 253, 258). This decision of Judge Westenhaver in the *Wolf* case was affirmed by the Court of Appeals for the Sixth Circuit, without specific discussion of the Hastings defense (296 Fed. 680).

In the next case, *Buckeye, et al.*, v. *Cooley*, in the New Jersey District Court, the Hastings defense was more completely exploited. Hastings testified as to his prior efforts, the Hastings abandoned application complete was again presented, and an additional publication was offered. The case was tried before Judge Bodine and the Hastings defense was again rejected. The Court's opinion has not appeared in printed records but it is reproduced in a separate pamphlet constituting an appendix filed with this brief. Judge Bodine's ruling was affirmed by the Circuit Court of Appeals for the Third Circuit, whose opinion is reported in 17 F. (2d), at page 453, the discussion of the Hastings defense being on pages 454 and 455.

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*If respondent, Hall, refers to the second paragraph of the decree in the *Hillpot* case (Hall R. p. 209), we direct the attention of the Court to pages 2 and 3 of our reply brief on petition for certiorari in the Hall case.

The third suit, *Buckeye, et al.*, v. *Stone*, was in the District Court for the State of Oregon and there again the Hastings defense was urged. The case was referred to a Master, Mr. Maguire, and he also rejected the Hastings defense. His opinion is not reported but it is reproduced in the appendix. There was no review of the Master's report by the District Court or the Court of Appeals.*

In the following years and up to the decisions of this Court in the *Snow* and *Waxham* cases, no one of the defendants in suits based on the Smith patent saw fit to urge the Hastings defense.

Since the decisions of this Court in the *Snow* and *Waxham* cases putting an end to numerous other defenses against the validity of the Smith patent, various other defendants have urged the Hastings defense.

In *Smith* v. *Street*, in a District Court of Minnesota, tried before Judge Molyneaux, Hastings testified at the trial (Hall R. p. 54) and the records of all previous litigations were presented, and again the Hastings defense was rejected (Hall R. p. 183).

In *Smith* v. *Sims* in the Indiana District Court, tried before Judge Baltzell, the record of the present *James* case was presented (Hall R. p. 54; James R. p. 1106) and again the Smith patent was held valid and infringed (Hall R. p. 171).

Lastly, Hastings and the Hastings publications appeared in a suit brought in Canada to invalidate the corresponding Canadian Smith patent and the Exchequer Court held the patent valid. The Court's opinion (1936 Ex. C. R. p. 105) deals with many issues; those portions dealing with the Hastings defense are the only ones of importance here and they are reproduced in the appendix.

The present *Hall* case was tried before Judge Hincks in the Connecticut District Court. Hastings and two cor-

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*The unreported decisions in the *Cooley* and *Stone* cases are contained in Plaintiff's Exhibit 2 in the *Hall* case (Hall R. p. 43).

roborating witnesses testified at the trial and the Hastings publications and abandoned patent application were presented. In this case the Hastings testimony dealt primarily with the Davis incubator at Brooklyn. Judge Hincks also rejected the Hastings defense, commenting on the "dearth of evidence" in support of the defense and the absence of any successful achievement as a result of Hastings' effort.

The present *James* case was decided by Judge Knight in the District Court for the Northern District of New York at Buffalo. The testimony in support of the Hastings defense in this case was taken by deposition and includes a deposition of Hastings. No attempt was made to support the testimony of Hastings as to the Davis incubator in Brooklyn; instead, the testimony related practically entirely to Hastings' second effort at Muskogee, Oklahoma. Here again, the Hastings defense was rejected and the Smith patent sustained and held to have been infringed. No discussion of the Hastings defense appears in the Court's opinion but the rejection of it is covered by the findings of fact (James R. p. 1266).

Thus, the Court of Appeals for the Second Circuit, in sustaining the Hastings defense, ruled oppositely to the Court of Appeals for the Sixth Circuit in the *Wolf* case and the Court of Appeals for the Third Circuit in the *Cooley* case, and oppositely to the decisions of the District Courts in the instant cases and the several other District Courts we have noted in the foregoing. Three of the District Court Judges who rejected the Hastings defense had had the marked advantage of observing Hastings and listening to his testimony at the trials before them in the *Hall*, *Cooley* and *Street* cases. Such personal contact of Judge Bodine with Hastings in the *Cooley* case led to the following comment (App. p. viii):

> "Hastings' testimony adds only this to the Hastings' writings, that one is satisfied that his experiments were

never in any definite direction and that he never achieved the point of successful operation. * * * Hastings was and is boastful. Convincing proof of his alleged method and device is certainly lacking. Success never rewarded his attempts."

The Smith Invention.

We do not here detail the facts in connection with the character and accomplishment of the Smith invention. The petitioner's proofs on these points in the instant cases are the same in substance as those presented to this Court in the *Snow* and *Waxham* cases.

The facts are set forth in the decisions of this Court in those cases (294 U. S. 1 and 20).

Brief History of Hastings.

Details of the facts in relation to the Hastings defense can best be presented in the course of the argument (p. 16-73, *infra*). We shall, here, merely outline the situation.

Hastings first appeared in 1908 as an employee of the Poultry Division of the Department of Agriculture. While there he became acquainted with a certain method and apparatus developed by one Madison Cooper for the preservation and cold storage of vegetables. The idea occurred to him that incubation of eggs could be successfully carried on by the use of the same principles which had proved successful in cold storage. He elaborated this idea in a book published in 1909 entitled "The Dollar Hen". After the publication of this book, he resigned from the Government employ to put his idea into practice.

His first attempt was at Brooklyn, New York, at a poultry farm operated by one Davis who furnished the necessary funds. There, in the spring of 1911, Hastings built an incubator following Cooper's ideas and tried it out in the cellar of the Davis house. This was an incubator of 6,000-

egg capacity, but in actual test it never contained more than 2,000 eggs.

On May 3, 1911, and while still at Brooklyn, Hastings filed an application for patent which shows nothing more than Cooper's cold storage plant applied to the hatching of eggs. The application as filed did not disclose the principles of the Smith invention, and, had it issued as a patent, would not have anticipated Smith. After a prosecution extending over a period of two years, the application was rejected by the Patent Office and abandoned.

The Brooklyn (Davis) incubator was operated during the months of March and April, 1911. The Court of Appeals for the Second Circuit said that this incubator was successfully operated during the years 1910 and 1911. This was an error for the testimony shows that the incubator was not built until the spring of 1911 and was operated only during a short period in the hatching season of that year (James R. p. 506; Hall R. p. 52). There is no testimony in either record how or to what extent the incubator was used after Hastings departure. There is no evidence that any eggs were set therein after April, 1911. The only testimony basis for a finding of successful operation is the oral testimony of Hastings (Hall R. p. 52). There is no corroboration of his testimony by witnesses who were connected with this enterprise. Neither Davis nor his wife testified that the operations were successful; in fact they were in no position to give any such testimony. Neither of them followed the operations sufficiently to permit of giving such testimony. Mrs. Davis gave hearsay testimony that comparative tests were made with the old style incubators (Hall R. p. 62). But no one except Hastings testified as to results secured and no further evidence of the tests was produced. The finding of the Court of Appeals that "there is uncontradicted testimony that this Davis hatchery was an operative success" (Hall R. p. 242) is inexplicable.

Some eggs may have been hatched, but unless the incubator actually secured a percentage of hatch comparable with or superior to the old prior art incubators it cannot be said that the results were successful, and as to the actual results secured there is no proof in the record. Furthermore, at no time during its operation was the incubator loaded to more than one-third of its operative capacity (Hall R. p. 55); nor was the Brooklyn incubator a "Public Use" as the operations were carefully guarded from the public.

Hastings left Brooklyn in May, 1911, and in 1913 the incubator was torn down and completely destroyed (Hall R. p. 60).

In the fall of 1911, Hastings appeared at Muskogee, Oklahoma, where, with the financial backing of one Lieber, he built another type of incubator. The Court of Appeals for the Second Circuit found that this Muskogee incubator embodied the same construction as the Brooklyn incubator. This is not true for, in the Muskogee incubator, Hastings operated upon an entirely different principle from that embodied in the Brooklyn incubator. In the spring of 1912, Hastings started operations at Muskogee and carried them on through that hatching season, making a number of changes and revisions in the construction as the season progressed. In May, 1912, he fled Muskogee, leaving the incubator on the hands of his supporters and no more eggs were set therein that year.

In 1913, Hastings' backers put some more money in the enterprise and set one batch of eggs, but, when this one batch was a failure, they abandoned the incubator and it was never operated again (James R. p. 785). In the fall of 1913, this incubator was destroyed and no trace of it remains (James R. p. 607).

The operations in Muskogee were a complete financial and practical loss. Many customers testified to disappointing results and in some cases to complete failure to hatch

eggs. During the year 1912, some eggs may have been hatched but no records were produced to show the amounts or percentages. Hastings and Lieber both testified that the results were variable and it is quite apparent that the average was so poor that continued operation of the incubator was impractical.

The Court of Appeals for the Second Circuit found that this Muskogee incubator ran through the hatching seasons of 1912 and 1913. Undoubtedly it was attempted to operate it as a commercial enterprise during the hatching season of 1912, but the unsuccessful attempt to hatch one setting of eggs in 1913 hardly warrants the finding made by the court.

From Muskogee Hastings went to Petaluma, California, at which poultry center he received no support, and later he appeared at a new poultry center at Port O'Connor, Texas, where, in the fall of 1912, he secured additional funds and built another incubator of a still different type and with a capacity of 150,000 eggs. This incubator was operated for a single setting only of 720 eggs and was then abandoned by Hastings (James R. p. 573).

Hastings then sought the support of the Hall Incubator Company, an established concern engaged in the manufacture of the old still-air type incubator. After a brief sojourn with this concern, he discontinued all further effort until 1918 (James R. p. 575-576).

In 1918, after Smith had been commercially operating his successful hatchery in Cleveland, Hastings visited Smith and then went on to Tiffin, Ohio, where he built another incubator and of that he said, "I tried out a method of hatching very much more like the Smith Buckeye devices than I had used in the past" (James R. p. 577). This Tiffin incubator was also a failure and was abandoned by Hastings.

Nothing further was heard of Hastings until the litigation of the Smith patent brought him into the Courts.

During the period covered by these years, Hastings attempted to publicize himself and his efforts in newspapers and periodicals, holding himself out as the successful inventor of modern mass incubation. There was a total absence of practical achievement resulting from his efforts.

The Errors Assigned and To Be Argued.

The errors assigned in the petition for writ of certiorari and to be argued here are:

1. The Court of Appeals for the Second Circuit erred in holding that the Hastings defense was effective to render the Smith patent invalid as to claim 1 in both cases and as to claims 2, 3 and 5 in the *James* case.

2. The Court of Appeals for the Second Circuit erred in ordering reversal of the decrees of the District Courts.

Each of the respondents presented other defenses, primarily that of non-infringement, based upon reasons which must be rejected by this Court in conformity with the holdings of this Court in the *Snow* and *Waxham* cases. Brief discussion of those issues is included herein, but in the main this brief is confined to the Hastings defense.

Summary of Argument.

Petitioner's proofs in the instant cases are the same in substance as those presented to this Court in the *Snow* and *Waxham* cases. The very substantial revolution in the art of incubation was traced directly to the Smith invention and it was shown that the principles of that invention were new in the art and have been followed by the respondents.

The remarkable development in this art is not traceable to the prior efforts of Hastings; on the contrary, when Hastings, in the fall of 1912, abandoned his third attempt to solve the problem of mass incubation, nothing had been accomplished and no one ever tried to duplicate his efforts. The art persisted in the use of the old, still-air incubators with the eggs in a single layer in one stage of incubation. Beginning with Smith's achievement of the solution in the year 1915, the revolution was continuous and overwhelming.

The events of the Hastings defense occurred more than twenty years before the witnesses testified in the instant cases. Their testimony about the construction and method of operation of the Hastings incubators and the results obtained in the operations is meagre and uncertain. It includes many admissions of total lack of knowledge of the results obtained and also many material departures from testimony given by the same witnesses in former litigations. No records of results obtained were produced, and there is no contemporaneous evidence, which is at all specific, dealing with either the constructions employed or the methods of operation.

Hastings was afforded every facility for making practical use of any novel ideas he evolved on the subject of incubation in connection with each of the three incubators he built and operated prior to the Smith invention. There is no suggestion of lack of funds or hampering of his efforts by others. Yet it is a fact that each of his three incubators was operated for a short time in one hatching season *only*, use of each of them was then discontinued, and each was then destroyed.

Though the construction of the three Hastings incubators is not proven with any accuracy, it is clear that each differed markedly from its predecessors. There appears to have been no consistency to Hastings' efforts, but instead a vacillation which is indicative of groping for something satisfactory without ever reaching it.

The various publications relied upon by respondents are statements and claims made by or for Hastings for success which was never realized. They contain no adequate description of the Smith invention and fail to describe with sufficient clarity the construction of the several Hastings incubators or how he attempted to conduct mass incubation in them.

Hastings filed an application for patent contemporaneous with his first attempt to build a successful incubator, but this application lacks two essentials of the Smith invention—staged incubation and current movement of air in sufficient volume and velocity to equalize the temperature throughout the mass of eggs in staged incubation. On the former point, the application is wholly silent. On the second point, the structure illustrated and described would effectively choke any effective current movement of air through the eggs. The application was rejected by the Patent Office and abandoned. No claim commensurate with Smith's Claim 1 was ever made during the prosecution of the application, and none could have been made for the application afforded no basis for such a claim.

In amendments filed toward the close of the prosecution of the application, reference is made to the differing thermal characteristics of eggs in different stages of incubation, a fact which Hastings apparently grew to appreciate from his experiences while the application was pending. He traced the difficulties which he was encountering to the behavior of the eggs, but the disclosure of the abandoned application and of the documents filed with it is devoid of any adequate suggestion as to how these difficulties might be overcome.

These facts mark the whole of Hastings' effort with the brand of failure. As stated by the Court of Appeals for the Third Circuit in the *Cooley* case (p. 455):

> "The result was negative, and, judging from what happened to the hatcheries, it was not successful."

The decisions of those Courts which disposed of the Hastings defense at the threshold of this protracted litigation are sound and follow the well-established principles laid down by this Court in many leading cases dealing with defenses of prior use and prior invention. Prominent among such cases are the *Barbed Wire Patent Case* (143 U. S. 275) and *Coffin v. Ogden* (18 Wall. 120).

In the *Barbed Wire Patent Case* this Court said at page 284:

> "We have now to deal with certain unpatented devices, claimed to be complete anticipations of this patent, the existence and use of which are proven only by oral testimony. In view of the unsatisfactory character of such testimony, arising from the forgetfulness of witnesses, their liability to mistakes, their proneness to recollect things as the party calling them would have them recollect them, aside from the temptation to actual perjury, courts have not only imposed upon defendants the burden of proving such devices, but have required that the proof shall be clear, satisfactory and beyond a reasonable doubt."

In *Coffin* v. *Ogden*, 18 Wall. 120, 124, the Court said:

> **"The invention or discovery relied upon as a defence, must have been complete, and capable of producing the result sought to be accomplished; and this must be shown by the defendant. The burden of proof rests upon him, and every reasonable doubt should be resolved against him. If the thing were embryotic or inchoate; if it rested in speculation or experiment; if the process pursued for its development had failed to reach the point of consummation, it cannot avail to defeat a patent founded upon a discovery or invention which was completed, while in the other case there was only progress, however near that progress may have approximated to the end in view. The law requires not conjecture, but certainty."**

ARGUMENT.

POINT I.

The Smith invention consists of a plurality of elements, all of which must be present.

The nature of the Smith invention and the essentials of successful mass incubation, first perfected by Smith, are fully and accurately presented in the opinion of this Court in the *Snow* case (294 U. S. 8). Those essentials are:

(1) The eggs must be set in *staged incubation* which is defined as the successive setting of eggs within the cabinet at brief intervals. In order to secure the benefits of the invention, intelligent use must be made of staged incubation so as to secure an approximate balance between the endothermic and exothermic eggs. A mere hit and miss setting of eggs of varying ages will not suffice, for if only a small percentage of the eggs is in one stage and the great mass in another, obviously the preponderance of cold, or hot, eggs will destroy the necessary balance which should be maintained.

(2) The eggs in staged incubation *must be set in one room* in order for the heat interchange to function, and this room must have the "restricted openings" which supply the requisite fresh air and permit escape of foul air without excessive loss of moisture, which would result in drying the eggs too rapidly.

(3) The air must be circulated *about all of the eggs* in this single room with sufficient force to constitute a definite current as distinguished from such drafts as may be generated by the differing heat conditions at different points within the room; and

(4) The current of air must move with a *sufficiently high velocity* to maintain the air at the *same temperature* about all of the eggs, thus breaking down any tendency for the formation of hot or cold spots about any group of eggs. As stated by this Court, this latter step marks "the boundaries of the claim". Smith mounted his fans directly within the chamber and vigorously recirculated substantially the same body of air over and over again through the eggs so that the temperature of the air was the same at all points, and all of the eggs, whether new or old, were subjected to the same air temperature.

As shown by the records in the *Snow* and *Waxham* cases, the solution of this problem was the result of persistent and untiring efforts extending over a period of over nine years (Snow R. p. 134; Waxham R. p. 545; 561). Repeated disappointments and failures dogged Smith's efforts, and it was only in the year 1915 that he finally combined all the elements of Claim 1. When the combination was made, success immediately followed.

POINT II.

In none of his efforts did Hastings combine the essential elements of the Smith invention.

The Hastings Defense in General.

The Hastings defense is typical of the class of defenses so frequently found in patent litigations where the successful inventor who creates a new art and achieves a large measure of material success, is confronted with earlier failures in the field. The answer is usually found in comparative results secured. In such cases the true inventor is immediately rewarded with striking success, and the art adopts and uses his invention from the day it first appears. On the other hand, the efforts of the earlier worker lead

nowhere and nothing is heard of him until he is brought forward in an effort to depreciate the achievement of the true inventor. As was said by this Court in *The Barbed Wire Patent Case* (p. 284), *supra*, "almost every important patent, from the cotton gin of Whitney to the one under consideration, has been attacked by the testimony of witnesses who imagined they had made similar discoveries long before the patentee." The Smith patent is no exception to this rule.

Undoubtedly Hastings *tried* to solve the problem of mass incubation. As we shall show in detail in a moment, he made three separate attempts at three different places, but none of his efforts lasted through more than one season. After each attempt he moved to another location, getting new capital to finance his efforts. Each incubator which he built differed in a wide measure from the preceding; and each incubator was soon destroyed. Neither Hastings, nor any one else connected with him, made a penny from his work, each lost all he had put into it, and none of Hastings' incubators was ever duplicated or reproduced by him or his associates or anyone else. His last attempt was in the fall of 1912. Nothing more was done by him until after Smith had made the invention and knowledge of it reached the world. Then, in 1918, Hastings made an attempt to build a practical incubator, following Smith's teachings. Even this was a failure, and Hastings passed out of the field until his efforts were resurrected by successive defendants, none of whom succeeded in injecting life into the defense until the Court of Appeals for the Second Circuit, after the expiration of the Smith patent, decided in favor of Hastings.

Considered from the standpoint of practical results attained, it appears to be particularly plain that Hastings failed to grasp the essentials of the Smith invention and failed to bring together those essentials in any one of the three efforts he made prior to the Smith invention. Had

Hastings, in fact, made the invention, commercial success would have been inevitable, just as it was with Smith. Hastings had every opportunity for success, but he failed completely. Hastings had no difficulty in securing financial backing for each of his efforts, he was enabled to try out his ideas unhampered by his associates, he spread news of his attempts over the pages of numerous technical and popular publications, and he was given every encouragement from those directly interested in the poultry business. After all of this, in 1912, Hastings gave up the problem. But ever after he has envied the success which came to Smith, and it is evident that his testimony has been colored by that feeling. As he testified in the *James* case (R. p. 579) he felt

> "some element of resentment that he did not share in such returns."

We shall now discuss the several publications and the installations made by Hastings in his attempt to solve the problem of mass incubation, pointing out wherein each publication fails to disclose the Smith invention and wherein each incubator failed to attain the goal of successful achievement.

"The Dollar Hen".

In the year 1908 Hastings, then about 24 years of age and an "expert" in the poultry division of the United States Department of Agriculture, encountered Madison Cooper, a refrigerating and ventilating engineer, who had designed a refrigerating apparatus for the preservation of vegetables, consisting of a cold storage room with perforated diaphragms above and below and a fan outside to cause a slow circulation of air through the room. Hastings conceived that this scheme might be used for an incubator. As he says (James R. p. 540) "I adapted that idea to in-

cubation." Hastings had no conception that the art of incubation, dealing with animate heat generating organisms, differed in any way or presented any problem distinct from that which confronted a cold storage engineer in the preservation of inanimate perishables.

Conceiving that incubation presented no difficulties not solvable by the application of refrigeration principles, Hastings wrote "The Dollar Hen". This is the publication to which the Circuit Court of Appeals referred at considerable length, quoting therefrom a selected passage (Hall R. p. 238). Either the Court did not read the whole of the book, or else it failed to understand the significance of other passages. Hastings said in this publication:

> "The plan of the hatchery is on that of a cold storage plant as far as insulation and general construction go" (p. 104);

and:

> "The means by which the air moisture is regulated is similar to that used in up-to-date cold storage plants where the air is made moist by sprinkling and dried with deliquescent salts" (p. 105).

It all seemed very simple to Hastings.

> "So simple is this that the reader will doubtless wonder why it was not developed earlier" (p. 104).

Hastings testified (James R. p. 540):

> "It occurred to me, while considering this method of refrigeration, that the problems of refrigeration and the problems of incubation were very similar, in fact we might say identical, and I believe I so wrote in 'The Dollar Hen'. I did so testify in the Cooley case."

And at page 541:

> "The statement of my opinion, as expressed in 'The Dollar Hen', was that the adaptation of the forced draft fan system of equalizing temperature, used by Cooper in cold storage, would apply to incubation. I was under the impression that the application of the device and method to incubation constituted an invention."

The publication fails to give any adequate description either of the incubator structure or of a method of operation. It was written by Hastings before he made an attempt to carry out the process. Judge Westenhaver correctly appraised this publication when he said in the *Wolf* case (291 F. 253-257):

> "The earliest article in the 'Dollar Hen' may be disregarded, as Hastings there merely describes a process for maintaining temperature in cold storage and suggests how it may be applied in a hatchery. It does not purport to describe an apparatus or ever to have been put to any use."

That Judge Westenhaver was correct is admitted by Hastings (James R. p. 540).

The reasons why the vague ideas expressed in "The Dollar Hen" do not anticipate the Smith invention are apparent. They constituted nothing more than the use of principles of cold storage in incubation. Hastings did not appreciate or understand the value of setting the eggs in staged incubation and he gave no definite instructions as to the manner in which they should be set. The ordered and intelligent utilization of the endothermic and exothermic properties of a large mass of eggs, set with some regard for their progression in incubation, was wholly a closed book to Hastings. Nor did Hastings conceive of the Smith method of conserving moisture by the restricted outlets; on the contrary, he proposed to adopt the systems used by cold-storage opera-

tors. Nor did Hastings understand the necessity for a circulation of air any more vigorous than might be required in Cooper's cold storage plant, a fact which is made clear when we consider the patent application which he filed during the period when he was attempting to make use of the conception. If a perforated partition such as that used by Cooper (James R. p. 554), or its equivalent, a fabric, is placed between the fan and the egg chamber, the force of the circulation will be retarded to such an extent as to destroy current movement of the air (*infra*, p. 25, 26). Lawry, another alleged prior user who appeared in earlier cases, also attempted to adapt Cooper's cold storage system to mass incubation (Waxham R. p. 457) and failed, as is shown by the discussion of the Lawry prior use by the Circuit Court of Appeals for the Ninth Circuit in the *Waxham* case at 70 F. (2d) 457, 459. As the Court said:

> "'Lawry did provide for a large chamber of heated air in which the eggs were placed. He did provide small vents above and below this chamber through which the air entered and escaped from the incubating chamber. The air in the Lawry process was given some momentum by an electric fan, but the effect of this momentum was almost entirely dissipated by the fact that the current of air was forced through a large number of small openings and escaped through similar openings to return through narrow passages to the fan to be again circulated through the incubation chamber. The obvious purpose of Lawry in this method of incubation was to supply fresh air without agitating the contents of the incubating chamber any more than was necessary to supply the fresh air. Apparently there was no effort to remove the heat from the incubating eggs by a current of high velocity. The plan was a failure and was abandoned and need not be further considered. We conclude that the Smith patent is valid."

Ten years later, after the Smith invention and after Hastings' experiences at Tiffin, Ohio, Hastings characterized this "Dollar Hen" publication as "an impractical poultry book" (James R. p. 578-579).

The Davis (Brooklyn) Incubator.

Principles of the Smith Invention Not Embodied In It.

Still believing that mass incubation was a very simple transposition of the cold storage system to the art of incubation, Hastings resigned from the Department of Agriculture in 1910 and sought an opportunity to apply this refrigeration idea to incubation. He set forth from the shores of theory on the troubled waters of practice armed with all of the self-assurance of a young "government expert". He first disclosed his ideas to Francis Orvis, the editor of "The Poultry Digest", who was not called as a witness by the defense in either case, and whose absence was not explained (Hall R. p. 54). Orvis introduced him to Davis, a printer engaged in operating a large linotype establishment in New York City, who also ran, as a side line, a poultry farm on the outskirts of Brooklyn, N. Y., in connection with which he operated a road-house selling chicken dinners. Davis was busy day and night operating his printing establishment and gave little attention to his poultry farm (Hall R. p. 59-60). The farm was run by a man named Miller, and a helper (Hall R. p. 62; James R. p. 505), to whom Hastings disclosed the operation of the incubator (James R. p. 546). Neither Miller nor the helper was called as a witness by respondents, nor was their absence accounted for. The present Mrs. Davis was then a

bookkeeper for Davis and went out to the poultry farm only occasionally (Hall R. p. 63).

Davis gave Hastings a salary and turned him loose in the Brooklyn hatchery to make what he could of his ideas in comparison with some old Cyphers incubators which he had at the place. Hastings built an incubator and tried it out in the spring of 1911. The patent application is the only contemporaneous record which shows the construction of the incubator. There are no records produced of the results of any experiments and no records of any hatch or of the number of eggs put into the incubator and the number of chicks produced. There is only the testimony of Hastings as to whether there were any successful hatches and as to what was the method of operation of the incubator.

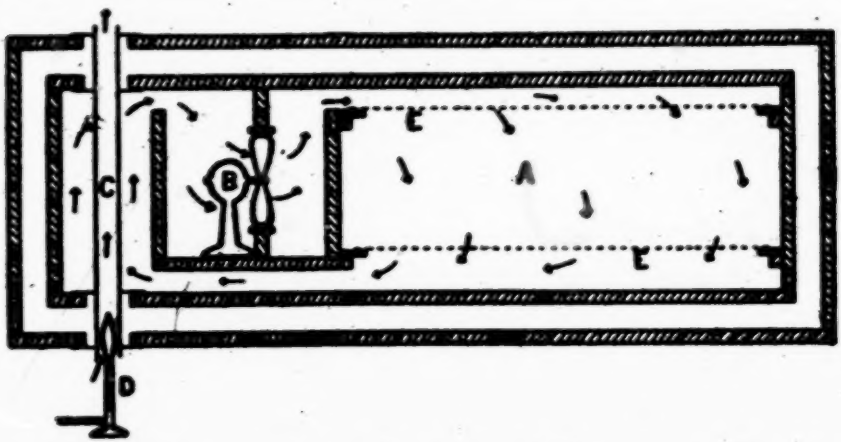
Just before Hastings testified in the *Cooley* case, he made some drawings purporting to show the Davis hatchery. As Judge Bodine said (Appendix, p. vii):

> "The drawings made on the eve of the present suit are, at best, Hastings' recollection of what he now fancies he did in 1911. It seems impossible that the methods disclosed in his drawings should not bear a resemblance to Smith's successful incubator rather than his failures."

In the *James* case, new drawings of the Davis incubator were made on the eve of the testimony in that case, and these drawings show differences in the fan arrangement from the *Cooley* drawings and a closer approach to the Smith principle (Hall R. p. 542-543).

The application for patent, prepared by Hastings (Hall R. p. 57) and executed April 20, 1911, contemporaneously with the operations at Brooklyn, contains a drawing of the incubator and some indication of what were Hastings' ideas at that time on the subject of incubator operation.

The application is at pages 727 to 764 of the James Record, and the drawing appears on page 764. It is reproduced below.



This drawing made by Hastings and incorporated by him in his patent application was made at about the time when he completed the Davis or Brooklyn incubator. Therefore it seems only reasonable to assume that it represents what Hastings then had in mind as the best embodiment of his ideas about incubator construction and the construction he employed in building the Davis incubator. But the construction illustrated by it is very different from that shown by the *Cooley* and *James* drawings made by Hastings from memory more than twenty years later.

In view of the fact that Hastings' conception was the mere transposition of Cooper's cold storage process to incubation, it is not surprising to find that his application shows an incubator which is a replica of the Madison Cooper cold storage plant as described by Hastings (James R. p. 540). The room A is enclosed top and bottom by the partitions E shown in dotted lines and the fan is outside of the room. The partitions are described as "fabrics or perforated partitions" simulating the perforated partitions used in the Cooper cold storage plant. Hastings in his

actual construction used the fabric; he never used the perforated partitions (James R. p. 554).

The fabric panels would check the flow of air from the fan, and no appreciable current of air could find its way through them. The result would be that the air within the chamber would be practically still air, decidedly different from the vigorous current movement which is one of the main essentials of the Smith invention. As Hastings said:

> "Those fabric panels had the effect of checking the air flow and served no useful purpose. They were deleterious to incubation only to the extent of checking the amount of air flow; making the fan less efficient" (James R. p. 551).

and

> "The presence of the fabric panels would affect quite materially the flow of air" (James R. p. 552).

Hastings had in mind a still-air environment for the eggs, following the teachings of the old prior art incubators. He said (James R. p. 551):

> "The expediency, in my mind, of the idea of using fabrics was a combination of the idea of diffused air, which was made a great point of in the Cyphers machines of that day, plus the idea of the distribution of the air equally throughout the area of the egg chamber."

Judge Westenhaver appreciated the effect of these fabric panels when he said in the *Wolf* case, 291 Fed., at page 258:

> "The specification and drawings disclose an apparatus which, in the light of our present knowledge on the subject, is known to be impracticable and inoperative. As described, it merely drives heated air down one side

> of an egg chamber, and permits it to filter through fabric or perforated partitions into the egg chamber, and escape, if it can, on the other side. No provision is made for removing foul air, or supplying fresh air, or conserving moisture. No well-defined channels for the circulation of the air are provided."

Judge Hincks, in the *Hall* case, also sensed their significance when he said (Hall R. p. 219):

> "And if Hastings, as the drawing of his abandoned patent application discloses, had his fan outside a fabric enclosure of the egg chamber, perhaps the only mechanical circulation of air was around the outside of the fabric enclosure; inside the fabric it well may be that the only circulation of air was the product of convection as in the old-style incubators, so that the incubation was proceeding under the old process rather than the new."

It must, therefore, be concluded that this Brooklyn hatchery lacked the forced current circulation of air through a large mass of eggs with sufficient velocity to maintain and equalize the temperature throughout.

There is also doubt whether Hastings had the other essentials of the Smith process at the Brooklyn plant. There is no evidence of any value indicating that he set eggs in staged incubation or that he had any appreciation of the value of that step.

On this question of whether staged incubation was employed in the Davis incubator, there are contradictory statements by Hastings himself. When he testified in the *Hall* case in the spring of 1935, Hastings was very positive that he set the eggs in staged incubation (R. p. 52, 53), stating that he set the eggs on the average of twice a week. However, when he testified in the *James* case two years before, he said (p. 548):

> "I do not remember the details of the time we set these eggs, because *it was of no importance to the principle of incubation* but merely a matter of convenience in handling the eggs and taking off chicks. I have no memory today, after some twenty-two years, on which to base a positive statement as to the exact time of setting these eggs."

The testimony of Davis and his wife that the eggs were set in staged incubation must be rejected for the reasons given by the District Court (Hall R. p. 217):

> "Davis and his wife, to be sure, testified that Hastings practiced staged incubation, but Davis had a busy linotype establishment running in New York day and night; his wife was his bookkeeper. The record does not show that either of them actually saw the eggs set in staged incubation. Their belief in the presence of staged incubation obviously is attributable to the fact that they received bills for frequent shipments of setting eggs. They now say they supposed these eggs were set in the Hastings incubator twice a week, as received. But so far as their actual knowledge is concerned, it well may have been that the eggs received for setting were distributed between the Hastings incubator and the several Cyphers incubators, in use near by, wholly without staged incubation. Thus, on analysis, the practice of staged incubation in connection with this alleged prior use rests upon the verbal testimony of Hastings alone."

When one refers to the only contemporaneous documentary evidence, the patent application, no corroboration of this testimony is found. The patent application, filed while the operations were being conducted, is wholly silent as to this essential feature. Somewhat later, reference was made to the differing thermal characteristics of the eggs during the process of incubation, but as Judge Hincks said (Hall R. p. 217):

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"That Hastings in 1912 knew of staged incubation is slight evidence, if any, that he practiced it in 1911."

The Court of Appeals stated in its opinion that Hastings used staged incubation in the Brooklyn hatchery. To support this finding the Court said that "Davis and his wife both testified that eggs were put in the chambers as they came in, once or twice a week" (Hall R. p. 239). Neither witness claimed to have been there when the eggs were set; obviously, their statements are expressions of inferences which they thought might properly be drawn from their recollection that eggs were shipped in at short intervals. That is the conclusion reached by Judge Hincks as is shown by his comment quoted on the preceding page wherein he said that Davis and his wife testifying twenty-odd years after the events, "supposed" that the eggs which were shipped to their Brooklyn house at intervals were put in the Hastings incubator at similar intervals.

In further support of that assertion, the Court of Appeals made reference to "The Dollar Hen", published in 1909, as showing what Hastings did in the Davis incubator in 1911, the suggestion being that because in discussing his imaginary incubator Hastings hinted at staged incubation as a possibility, he must have used it in the Davis incubator. The Court of Appeals must have forgotten temporarily the admonition of this Court that "the law requires not conjecture, but certainty" (*Coffin* v. *Ogden*, p. 124, *supra*).

Again, the Court quoted a newspaper article published by Hastings in 1912 in which it is stated that the "eggs at all stages can be placed in the same trays", and that he "hatched several thousand eggs under such conditions in his Brooklyn (Davis) plant last year". But this is not staged incubation. The scattering of new eggs through a tray containing old eggs with no definite realization of the value of staged incubation and without any attempt to balance

endothermic and exothermic eggs, is not sufficient. It seems quite evident that at that time Hastings had no conception of the importance of staged incubation.

Furthermore, the Court appears to have overlooked entirely the next sentence in that article where Hastings said:

> "This point, while upsetting a tradition, is of no practical significance because *eggs of different ages should be kept apart as a matter of general convenience*" (James R. p. 1116).

Hastings' failure to recognize the importance of staged incubation appears again in his testimony in the James case where he said "it was of no importance to the principle of incubation" (James R. p. 548).

Even had Hastings set some eggs at intervals less than the full period of incubation, the result would be no different. Accidental use of one step of the process without appreciating its benefits or advantages cannot invalidate a patent granted to one who first recognized the value of that step and was led thereby to employ it in a new and successful process (*Tilghman* v. *Proctor*, 102 U. S. 707, 710; *Eibel Co.* v. *Paper Co.*, 261 U. S. 45; *Boyd* v. *Cherry*, 50 Fed. 279, 283; *Wickelman* v. *A. B. Dick Co.*, 88 Fed. 264, 266, 267; *Franc-Strohmenger & Cowan* v. *Arthur Siegman, Inc.*, 27 F. [2d] 785, 788).

THE DAVIS (BROOKLYN) INCUBATOR WAS NOT A PUBLIC USE, NOR A REDUCTION TO PRACTICE; IT WAS AN ABANDONED EXPERIMENT.

The Court of Appeals did not state whether it regarded the operation of the Davis incubator as a public use or merely as evidence of prior invention by Hastings. It was merely an experiment made by Hastings, and the record clearly shows that it was abandoned; the construction was not duplicated in any of Hastings' later work. An aban-

doned experiment is never regarded as an anticipation of a later issued successful patent.*

That the Davis hatchery was not a public use is clearly established. In writing for the "Boston Sunday Globe" in November, 1912, Hastings said (Hall R. p. 63):

> "Finally in the winter 1910-1911, a small plant was constructed on the Davis Poultry Farm in Brooklyn, New York, and the idea fully demonstrated. This plant was not open to the public as its workmanship was crude and the applications to the Patent Office not completed."

In testifying in the *James* case Hastings said (p. 534):

> "I know and would remember all of those who saw the Davis machine, as there were only a few in number and were personal friends of Mr. Davis and myself."

And again at page 553 of the *James* record:

> "He was hatching for himself alone, or I was hatching for him, his employee, and it was not public in the sense that we had public customers nor any bid made to the outside public to come and visit the hatchery, but Mr. Davis's friends and mine were shown the hatchery.
>
> Q. And you kept it secret because of the fact that you hadn't filed a patent application at that time, isn't that correct? A. I think that was my impression at that time, of not wanting the general public in, yes."

Gaylor v. *Wilder*, 10 How. 477; *The Corn-Planter Patent*, 23 Wall. 181; *The Barbed Wire Patent*, 143 U. S. 275; *Electric Smelting, etc., Co.* v. *Pittsburgh Reduction Co.*, 125 Fed. 926 (C. C. A. 2); *Carson* v. *American Smelting, etc., Co.*, 11 F. (2d) 766 (C. C. A. 9).

In the *Hall* case, Hastings said (p. 56):

> "My incubator was built in the same cellar of the same house where Mr. Davis had his other incubators. I think that it is correct that I testified in the Simms and James cases that I did not operate thi[illegible]hing as a public use but kept it secret because my application for patent had not yet been filed."

The Davis incubator was located in the cellar of the road house and was carefully guarded from the public gaze so that no knowledge of its existence or mode of operation reached any further than the small group composed of Hastings, Davis and their immediate friends and workmen about the place. An attempt was made in the *Hall* case to establish that many people must have seen the Davis incubator because many hundreds of people visited the road house for dinners (Hall R. p. 60). Mr. Davis did not testify that the guests for his Sunday dinners were taken into the cellar of the house and shown the incubator. He carefully avoided such statement, nor would his testimony have been credible had he so stated for it would have been directly contradictory to the quoted statements made by Hastings.

It is well settled that a concealed experimental installation, such as the Davis incubator, is not a "public use" in the sense of the patent law (*Smith & Griggs Mfg. Co.* v. *Sprague*, 123 U. S. 249-257).

The Court of Appeals stated in its opinion in the *Hall* case that the Davis incubator "was in use during the hatching seasons of 1910 and 1911" (Hall R. p. 242). The Court was in error in this holding. Hastings testified that the incubator was not completed until "February or early March, 1911" (James R. p. 545) and he left the Davis' plant "the last of April or the first of May" (James R. p. 546), while the hatching season was still on. There is no testimony in the record that the incubator was operated after Hast-

ings left, except to finish up the operations which had been started. The only man who could have testified on this point was the manager, Miller, who was not called.

Nor was the Davis incubator a reduction to practice. It was built for 6,000 eggs. There are no records of how many hatches were conducted or the number of eggs set or the results secured. Hastings stated that at no period of its operation did it contain more than 2,000 eggs (James R. p. 547; Hall R. p. 55). In other words, the Davis incubator was never more than one-third filled. Such an operation would not afford an adequate test of the Davis incubator. With a few eggs in trays in a room adapted to hold three times as many, some eggs might successfully hatch even though the air was not perceptibly in motion. No one can predict what would have happened if the incubator had been filled to or approaching capacity. Under the conditions under which Hastings operated, the incubator was, in effect, nothing more than a still-air incubator of the old type and operating under the principles of the prior art. As the District Court said (Hall R. p. 219):

> "For all I know, 2,000 eggs set in a chamber three times too large for them and supplied with some heat and some natural ventilation, even without a fan, might have produced as good a hatch as Hastings got."

The Davis Incubator Was Not Successful.

Hastings in his most extravagant statements did not claim that he had made an improvement in percentage of hatch over the old "Cyphers" incubators (Hall R. p. 52-53). In rating the percentage of hatch at 59% Hastings was admittedly guessing, and it is not unlikely that he exaggerated the results secured, but as his results were never better than the "Cyphers" (Hall R. p. 53) and as Davis

said he "had not had very good luck with the Cyphers" (Hall R. p. 58) it is evident that Hastings effected no improvement in the number of chicks produced from a given number of eggs incubated.

One of the main advantages of the Smith invention is the increased percentage of hatch. As this Court said in the *Snow* case (p. 7):

> "By use of the new method it is possible to operate successfully an incubator containing as many as 52,000 eggs, and the percentage of eggs successfully hatched by artificial incubation has been materially raised."

Thus it is apparent that the Davis incubator never demonstrated that it was capable of producing the results of the Smith invention.

The record also contains a very striking admission of failure of the Brooklyn hatchery in the words of Hastings spoken shortly after the event. In an amendment to his abandoned application dated May 24, 1912, Hastings referred to "a painstaking and very costly series of experiments" (James R. p. 744) which he had performed. Prior to that date the only experiments which he had performed were at Brooklyn, N. Y., and Muskogee. No one who had *successfully* operated the Brooklyn incubator would so write to the Patent Office. Had the Davis incubator been successful, Hastings would have proclaimed the fact to the Patent Office and to everyone else.

For most of the facts about the Hastings incubators at the Davis farm in Brooklyn and at Muskogee, one is forced to rely on the testimony of Hastings himself, but there is much reason for questioning how reliable a witness he is. For instance, immediately following the brief experiment with the Davis incubator, Hastings published a prospectus for the purpose of getting funds to build another incubator. In this prospectus he said:

> "In the season of 1910-11 I built and operated a 15,000 egg single compartment hatchery on the poultry farm of W. B. Davis in a suburb of Brooklyn" (James R. p. 554 and Hall R. p. 55).

This was admitted by Hastings to be an "exaggeration" and not true (Hall R. p. 56). Also Hastings said:

> "I exaggerated the capacity more than two and a half times for the purpose of getting people to put money in it. As a matter of fact I hadn't run my incubator with more than 2,000 eggs in it at the time I made this statement" (James R. p. 555).

This admission of exaggeration in presenting certain of the facts about his incubator suggests that the same willingness to exaggerate may have entered various others of his statements and that therefore hesitation and careful scrutiny are necessary before accepting his uncorroborated statements.

The final chapter of the history of the Hastings incubator at the Davis farm stamps that effort quite definitely as an unsuccessful and abandoned experiment. Use of the incubator extended over March and April of 1911 (James R. p. 506). Hastings departed about the first of May, 1911, never to return (James R. p. 546). The incubator remained in the cellar of the Davis house, unused and abandoned for aught the record shows. In 1913 Davis sold the farm, and, at his direction, the incubator was "knocked to pieces and put out in the back yard and *burned up along with a bunch of other trash*" (Hall R. p. 61).

Thus the incubator was deserted by both Hastings and Davis, Hastings who had put his efforts into it, and Davis his money. Had it been successful, Hastings would have continued to operate it and to exploit it; but even if he had deserted it and it was a successful operative device, doubtless Davis would have continued with the use of the incubator and probably with its exploitation.

The Court of Appeals seemed to find excuse for this outcome of Hastings' effort at the Davis farm in the fact that Davis suffered financial reverses and that the incubator could not be removed except by dismantling it. This disregards the probability that if the incubator had been successful, Davis would not have suffered financial reverses. He would have had immediately at hand a source of wealth far richer than his printing establishment or his chicken farm, and even if the incubator had to be moved to a different location and could be moved only by dismantling it, it could have been reconstructed or duplicated in a new location instead of burning it "along with a bunch of other trash".

The foregoing facts are to be considered in contrast with the statement by the Court of Appeals that there is "uncontradicted testimony" that the Hastings incubator at the Davis farm "was an operative success". The testimony about its operation is that of Hastings, Davis and Davis' wife. Neither Davis nor his wife gave any testimony as to whether or not the incubator was "an operative success". They could not because they did not know what degree of success or non-success was attained (Hall R. p. 59-60, 62). Thus, the specified "uncontradicted testimony" is that of Hastings alone. We have shown that Hastings admitted exaggeration of the facts about the incubator, that he was biased by envy of Smith's success and that he claimed no advantage for his incubator from the standpoint of percentage of hatch. Also, analysis of the asserted operative success reduces it to nothing more than the fact that the Hastings incubator at the Davis farm produced chicks from eggs. Whether or not it produced them cheaper or better or in a way that was an improvement in any other respect is not proven, and the fact that it was capable of producing chicks from eggs is quite unimportant because there were plenty of available incubators at the time which would do that.

The conclusion of the District Court in the Hall case on the matter under discussion is much more sound. Judge Hincks' summary of the condition presented by the testimony under review is (Hall R. p. 220):

> "I am thus left in doubt as to whether Hastings on the Davis farm in the spring of 1911 did what it is said he did; if so, whether he used the method of claim 1 of the patent in suit; and if so, whether his use thereof was a successful use within the rule of *Corona Cord Tire Co.* v. *Dovan*, 276 U. S. 358."

Hastings' testimony, the only testimony on this Davis incubator which can be included within the Court of Appeals' reference to uncontradicted testimony, presented nothing calling for contradiction because it asserted no improvement in the Davis incubator over other incubators such as those in use on the Davis farm, and as to the incubator being "an operative success", its history contradicts that overwhelmingly. The use of this Davis incubator was discontinued. The incubator was abandoned by its designer and by its financial sponsor at a time when both were greatly in need of a source of revenue and, when something had to be done with it, it was destroyed and later was referred to by the appropriate designation of "trash".

The Muskogee Incubator.

By resort to the false statements above referred to about the operations at Brooklyn, Hastings, in 1911, secured the necessary financial support for the building of his second incubator (James R. p. 555; Hall R. p. 56). Concerning this incubator nothing appears in the *Hall* record; the testimony and exhibits are all found in the *James* record.

Leaving Brooklyn in May, 1911, Hastings journeyed to Kansas where he sought out Rees V. Hicks, the editor of the poultry magazine "Poultry Culture" (James R. p. 511), who was not called as a witness nor his absence excused. Through Hicks, Hastings met John Lieber "a prosperous and leading spirit" of the rapidly growing town of Muskogee, Okla., then on a great boom (James R. p. 512). Lieber advanced the money and gave Hastings a building in which to construct his incubator and left him to his own devices.

THE MUSKOGEE INCUBATOR WAS NOT A DUPLICATION OF THE BROOKLYN INCUBATOR—NOR DID IT EMBODY THE SMITH PROCESS.

The Second Circuit held that this Muskogee incubator "was similar to the one built for Davis in Brooklyn". This is far from accurate.

The incubator Hastings built at Muskogee differed materially, both in construction and method of operation, from the Davis incubator. Instead of a single chamber to receive the eggs, this incubator had a long row of seven chambers, each intended to receive about 5,000 eggs. Each chamber was substantially closed and distinct from every other chamber and had small openings at top and bottom, the opening at the top being controlled by a sliding damper by which the amount of heat admitted to each chamber could be regulated (James R. p. 603). Across the top of the row of chambers there were one or more flues (the number not fixed in the record) leading from a single fan of the common type. The fan was supplied by Lieber from a moving picture theatre which he owned and operated (James R. p. 604).

In a contemporaneous article published in "Poultry Culture" of February, 1912, and stated by Hastings to be a correct description of the incubator (James R. p. 520), it

appears that there were two flues or ducts extending from the fan to the several chambers. One of these flues contained a heater, the other did not, it being Hastings' purpose to maintain different temperatures in the chambers in accordance with the progression of incubation. As the article says (James R. p. 1115-16):

> "varying degrees of air temperature will be required in heating (or cooling) eggs in varying quantities and different stages of incubation. To accommodate this need, the inventor has ingeniously arranged that the air be divided, after it leaves the fan, into two flumes. One of these passes the heater and the other does not. Into the ceiling of each compartment slide dampers open from either flume, so that by opening the two in proper relative proportions any temperature desired may be attained in any compartment."

There are no contemporaneous drawings or photographs of the Muskogee incubator showing its interior construction. Just as in the case of the Davis incubator, Hastings made a drawing of the Muskogee incubator for use in the *Cooley* case just before the trial; and in the *James* case the attorneys for the defendants had another drawing made (James R. p. 541). The Cooley and James drawings differ in important details of fan arrangement (James R. p. 542-543; 560) but neither of them shows the two "flumes" described in the only contemporaneous description of the Muskogee incubator.

As to the method of operation which Hastings practiced at Muskogee, we have the evidence of defendants' witness Lieber, the only witness other than Hastings who knew how the incubator operated. Lieber testified in September, 1925, in the *Stone* case:

> "This incubator had six separate compartments, each holding 5,000 eggs. He had valves or cut-offs connected with each of these sections, or compartments, by which he could regulate the heat of the air in each

section or compartment. He could have one temperature in one compartment and a different temperature in another. He explained to me at the time that this was necessary because when eggs were first placed in an incubator they required the maximum amount of heat whereas a few days before they hatched the chicks in the eggs furnished considerable heat, and therefore it was not necessary to supply as much artificial heat just before the chicks hatched. He gave this as his reason for having to have the device so that it would have one temperature in one compartment and a different temperature in another compartment" (James R. p. 776-7).

In the *James* case he reaffirmed this statement of operation at page 626 saying:

"I remember it was a 30,000 egg incubator, six (6) compartments at five thousand (5,000) each, and one (1) compartment that he used to take the chicks off in, because he had to have different temperatures in each de(com)partment."

And at page 627:

"His idea was, according to my recollection, that he would have a continuous hatching all the time. That is, he could start eggs in one compartment, carry on for a few days, and then move them to another compartment and leave for a few days. And then move on for another period until they finally got down to the end. Yes, that is, if he was crowded for space, as new eggs came in he would put the eggs in the first one, and keep on moving them, and he would be putting eggs in the first compartment and taking chicks out of the last one at the same time. And in the intermediate compartments would be eggs further advanced in the incubation. And he adjusted those slides so more or less hot air would go into each compartment, to control the temperature. The temperature of the different compartments was different. My recollection

is that the temperature varied about ten degrees from the starting to the end."

By 1933 it had become apparent to representatives of respondents that the method of operation which Lieber said was employed was not the Smith method at all. The result is just what one would have expected, namely, vigorous protestation by Hastings in the *James* case that the process described by Lieber is not the one which was employed. Hastings said he set eggs of different ages of incubation in each compartment and hatched the chickens at the bottom of each compartment (James R. p. 535). There is absolutely no record evidence to support this testimony of Hastings, and it is contradicted by the only other witness who knew how the incubator operated, namely, Lieber, who said that the eggs were all hatched in one compartment (James R. p. 603).

On the other hand, there is contemporaneous record evidence that Hastings was in fact practising the process described by Lieber.

We have already referred to that portion of the "Poultry Culture" article describing the two "flumes" leading from the fan, one leading past a heater, and to the fact that by regulation of the dampers "any temperature desired may be attained in any compartment" (James R. p. 1116, top of first column). In the same article at the top of column 2, page 1115, it is said:

> "During hatching, trays with higher sides are placed on alternating tray slides, thus requiring two compartments for hatching the twenty trays incubated in one."

Here is a definite statement that the *full complement* of the hatching capacity of the incubator was incubated in *one compartment*, which, necessarily forecloses any possibility that eggs of different ages were located in the different compartments. This quotation establishes a condition

wholly incompatible with Hastings' testimony in the *James* case. This same method of operation is described in Defendants' Exhibit 26 A (James R. p. 1121) prepared by Hickox and stated by Hastings to be "a very excellent and accurate description of that incubator" (James R. p. 522).

Also, in the "Poultry Culture" article, Hastings said "eggs of different ages should be kept apart" (James R. p. 1116), which is consistent with Lieber's testimony but inconsistent with that of Hastings on this subject of the method of operation of the Muskogee incubator.

At the date of the "Poultry Culture" article (Feb., 1912) Hastings had hatched only a single setting of eggs in one compartment, and the photographs show only this one setting of 250 eggs, all of which were set at one time and *not in staged incubation* (James R. p. 556). The photograph in the upper left hand corner shows the hatch partially completed with some of the eggs hatched and others about to hatch.

That Hastings actually practiced the process of moving the eggs progressively from compartment to compartment as incubation progressed, and transferring each set of eggs finally into the end compartments for the hatching, is shown by an examination of a later photograph taken "in the midst of the hatching season of 1912" (James R. p. 526). We refer to the photograph Exhibit 26-D imperfectly reproduced on page 1127 of the record. This photograph shows the seven chambers of the Muskogee incubator with a considerable number of trays drawn forward. No hatching is being done in the chambers in the foreground. But in the background it will be noted that the trays have the high sides characteristic of trays for hatching (James R. p. 527). Therefore, it seems clear that the structure illustrated is one in which incubating was practiced as Lieber described, namely, by moving the eggs along the series of chambers progressively until they reach

the chambers at the end of the row where the hatching occurs.

The Muskogee incubator required the operator to adjust the several inlets to the compartments to maintain the different temperatures in each compartment dictated by the stage of advancement of the eggs therein. This was a problem accentuated by the heat characteristics of the endothermic and exothermic eggs and complicated by multiplication as the number of eggs in each compartment increased. The circulation of air through each compartment of the Muskogee incubator was scarcely perceptible and in reality a still-air condition. This was no advancement over prior art incubators which involved still air conditions and the same problem of careful adjustment of temperatures as incubation advanced.

That Hastings utilized only an ineffective current of air and required a careful adjustment of the several chambers to conform to the stage of egg advancement in each compartment, is established by the evidence and corroborated by the statements quoted from Hastings in that portion of the brief before the Patent Office in which he was referring to his Muskogee operations (James R. p. 756):

> "a current of air is blown past each and every egg *at the rate of thirty feet per minute*[1] * * *. This method of heating keeps the temperature of the eggs in the advanced state of incubation down within a few degrees of that of the air, *the exact difference being regulated at will by adjusting the speed of the fan. When properly adjusted* the same blast of air used to heat fresh eggs does equally well for eggs in the advanced stages. * * *"

And on page 755 in the body of the attorney's brief:

> "it becomes a comparatively simple matter *to regulate both the temperature,* the humidity or the gaseous

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[1]That this is an ineffective speed is shown at pages 59 and 60, *infra.*

> composition of the air, inasmuch as all of the air is drawn positively through a circulatory system *and may be modified at any point during its circulation*".

Each compartment of the Muskogee incubator was in effect a still-air incubator of the prior art with the difficulties of operation greatly increased by the ambitious capacities. In the words of this Court in referring to other prior art incubators, the Muskogee incubator involved the same "necessity of varying by nice adjustments the temperature of the applied air, so as to conform to the varying temperatures of the eggs as they passed through successive stages of incubation" (*Snow* case, p. 7).

Thus, Hastings' operation at Muskogee was radically different from the Smith method. This being true, it is immaterial whether the Muskogee use was an operative success, *for it was not the Smith invention.* The process which Hastings used at Muskogee was, in fact, the identical process which had been known in the prior art for years. In the year 1887, British patent No. 10,288 issued to one Gardner (James R. p. 1003), described in detail this same procedure which Hastings used at Muskogee. That procedure is distinct from that of the Smith invention as was stated by defendants' expert in the *James* case (p. 427):

> "Q. And as I understand the Smith patent—and disagree with me or not, as you like—is this correct; I will put it this way; is this a correct statement of the Smith patent, that you maintain a temperature substantially uniform throughout the chamber? A. That is the wording of it, yes, sir.
>
> Q. And then your temperature of the air around the cold eggs is substantially the same as the temperature of the air around the hot eggs? A. That is what the wording means.
>
> Q. And you have in the Gardner patent, however, the temperature of the air different on each of the different sets of eggs? A. That is correct."

The Muskogee Incubator Was a Failure.

Persuasive evidence of the truth of the above statement is that Hastings "never built another incubator exactly like the Muskogee incubator" (James R. p. 571). Nor has any practical hatcheryman since that date duplicated the Muskogee incubator or attempted to operate upon the principle employed by Hastings. In addition, there is positive proof of its failure.

When Hastings left Muskogee in May, 1912, the hatching season was still on, but no eggs were set in the incubator in 1912 after his departure (James R. p. 537). In 1913, Lieber and one Hastain tried to operate the incubator, the latter putting an additional $500 in the enterprise (James R. p. 774). But this effort was a failure. It failed though Hastain was said to know more about the operation of the incubator than any one other than Hastings (James R. p. 785). Testifying in the Stone case in 1925, Lieber said (James R. p. 776):

> "Q. After Milo Hastings left, did you or Ed Hastain undertake to operate the Hatchery? A. Mr. Hastain and a brother-in-law of his, named Dierfield, operated the hatchery during a part of 1913. But neither of them knew anything about the principle of the hatchery and they had no success."

And on page 785:

> "Q. How long did Hastain continue to operate in the Spring of 1913? A. My recollection is that they only put in one batch of eggs and closed down the hatchery when the hatch was unsatisfactory.
>
> Q. Why did he not try the second hatch? A. We could not figure out its failure to hatch in 1913, except on the theory that Milo Hastings, the inventor, was the only man who knew how to operate it."

Realizing the damaging effect of the testimony of Lieber, the defendants in the *James* case induced Lieber to testify differently in 1934. At page 607 of the *James* record, Lieber testified:

> "Mr. Dierfield put some money in the business the next spring, and he" (Hastain) "and Mr. Dierfield operated it during the season of 1913. I say they operated it. I mean by that, they hatched eggs in it."

On cross examination, Lieber made his statements more emphatic, saying on page 622 that it was "absolutely not" a failure in 1913 and that "hundreds of chickens were taken out to Mr. Hastain's farm in 1913 from that hatchery.". When confronted with his testimony in the *Stone* case, Lieber took the absurd position that he had not changed his testimony. It is quite significant that neither Hastain nor Dierfield was called to testify for the defendants, nor was their absence excused.

Lieber's unreliability is aptly illustrated by this contradictory testimony. This fact was apparent in the *Stone* case where it appeared that he had insisted upon reimbursement for all of his losses as the price for testifying in the *Cooley* case. The master commented upon this in the *Stone* case, saying (Appendix, p. xvi):

> "John G. Lieber, who was financially interested in the Hastings hatchery, testifies that hatches of about fifty per cent. were obtained. It is apparent, however, that Lieber was interested and more or less hostile with the hope that at some stage of the litigation of Smith's patent and the infringement suit brought by the Buckeye Incubator Company against Cooley, he might receive a return of the money he lost in the Hastings venture."

With these facts we have stated in mind, it is surprising to note that the Court of Appeals found that the Muskogee

hatchery "ran through the hatching seasons of 1912 and 1913" and that counsel persist in their claim that the Muskogee incubator operated more than one hatching season. In 1913 the Muskogee incubator was entirely dismantled (James R. p. 624) so that *not a trace of it is in existence today.* Respondents maintain that a certain blower fan shown in Exhibits 22 B to 22 F is a relic of the Muskogee incubator, but, as we point out below (*infra,* p. 51-52), it is impossible, in view of the testimony, to connect this fan with the Muskogee incubator.

The destruction of the incubator and the complete financial and operative loss which it brought to all who were connected with it stamps it with the ineradicable brand of failure and abandoned experiment. As Hastings said: "No one made any money out of it" (James R. p. 571). Lieber said (p. 607): "The venture was not a financial success. In other words, I did not make money out of my investment in that incubator. No, I lost it all." How different the story would have been had Hastings conceived the Smith invention! There would then have been no excuses and no attempts to disguise the palpable failure of the enterprise and no need for either. Hastings and his friends and associates in Muskogee would have reaped the rich reward of success instead of the ashes of failure. As Lieber said (James R. p. 622):

> "But he" (Hastings) "got disgusted and left and left the thing on your hands? A. Yes, sir, that is right."

Hastings said (James R. p. 536) that he was "discouraged with my work".

Testifying in 1925, Lieber said (James R. p. 775):

> "Milo Hastings was an eccentric sort of a fellow and became disgusted with the mess in which he had gotten the business of the hatchery in. He finally left, turned it over to me, and told me to do the best I could with it."

Lieber was so disgusted and discouraged with the whole incubator business as a result of this experience that he never used or operated another one. As he said (James R. p. 631):

> "Q. You used an incubator? A. No, sir, just bought chicks; never used an incubator; one was enough for me.
>
> Q. Your experience with the Hastings Incubator was enough for you? A. Yes, sir, one was enough for me."

Hastings had every opportunity to succeed. Lieber was a wealthy man at that time and Hastings was given entire charge of the building and operation of the incubator. Muskogee was the center of a large poultry industry (James R. p. 652), and Hastings was enthusiastically received by the poultry men of the vicinity. He had the endorsement of the influential "Poultry Culture" and the support of the Poultry Department of the Kansas Agricultural College. He associated with him an energetic publicity expert named Hickox, who spread the news of the Hastings incubator in the scientific journals, periodicals and newspapers of the country. Here then was the golden opportunity for Hastings if the construction and method of operation of his incubator were those which were productive of successful commercial operation.

Hastings and those who supported and patronized his hatchery were doomed to a great disappointment (James R. p. 649). Shortly after Hastings started operations, Shanafelt, a successful and outstanding poultry man, took 200 eggs to the Hastings hatchery. They were a choice breed, and eggs from the same flock had hatched under hens, but he received not more than seven chicks in return (James R. p. 648). Cory, also an experienced breeder, took down three lots of 100 eggs each and received no chickens at all (James R. p. 645). Cory testified (p. 646):

> "I never got any results at all from the eggs which I took to Mr. Hastings, not a chicken."

Results from the same flock, hatched under other conditions, averaged about 50%, and he had no complete failure except from the eggs he took to Hastings (James R. p. 645). Ward, who was intimately associated with Hastings and with whom Hastings discussed the failure of his incubator (James R. p. 657), testified (R. p. 657):

> "The reports I got concerning the Hastings' hatches were that the first hatches he got, he did not get over from 5 to 20 per cent. of the fertile egg hatches. In those days we counted fertile eggs to get a percentage, which were candled afterwards. At first he got from 5 to 20 per cent. He remodeled the incubator. After he remodeled it, he got better hatches, but at no time did he ever get over a 50 per cent. hatch."

Ward also testified that poultrymen around Muskogee refused to continue to patronize the Hastings hatchery because of the poor results secured (James R. p. 658). Hastings pretended that he never knew Ward (James R. p. 534).

In 1925, S. J. Anderson, an experienced poultryman, testified that he took 150 to 200 eggs to Hastings' incubator in March, 1912, and received back five chicks. They were fertile eggs and were hatching under hens (James R. p. 768).

Respondents placed L. W. Pitts on the stand who testified on direct examination that he did not remember the percentage of hatch but that he saw the incubator in operation. On cross examination it was brought out that in testifying in 1925, this same witness had said that Hastings "didn't have a very good hatch, and the chickens that were hatched were rather weak", and that "the percentage of chicks to the eggs was very low" (James R. p. 637), and on page 638 he reaffirmed this as his present recollection.

C. T. Brewer testified that he took eggs to the hatchery and received some chicks but whether these chicks were produced from the eggs which he took in, he had no means of knowing. As Brewer testified "so far as my knowledge is concerned, the chickens we got from Mr. Hastings might have come from some eggs other than ours" (James R. p. 641). It is admitted that Hastings was in the habit of supplying customers with chicks hatched from eggs received from other sources. As Lieber said (James R. p. 630): "People got back a lot of chicks from eggs they never sent." It is highly probable that whatever chicks were received by Brewer were hatched from eggs supplied by some one else. Therefore, the number of chicks which Brewer received means nothing as to the percentage of hatch.

Van D. Campbell, who was only twenty years old at the time, testified that his parents sent some eggs to Hastings' hatchery but he had no knowledge of how many chicks they received (James R. p. 642). His parents who were living in Muskogee where the depositions were taken were not called to the stand (James R. p. 644).

No records were produced to show the results of the Muskogee operations though records and books were kept (James R. p. 569).

Hastings admitted repeatedly that the results secured were very disappointing. He said at page 575 of the James record, "We had many disappointing hatches", and in writing to the Patent Office on May 24, 1912, just after the Muskogee experience, Hastings said, as noted above, that he had conducted "a painstaking and very costly series of experiments". In the article appearing in the "Boston Sunday Globe" of November 10, 1912, Hastings said, referring to his Muskogee and Brooklyn incubators, that he was "finding out other ways to better the hatching results of the cruder machines" (James R. p. 575).

In the Canadian suit Hastings testified:

"The hatching records as a whole for that plant were not high and there were many individual cases of very poor results. I should judge that the hatching record of the whole would run around 40 per cent." (Appendix, p. xxxv).

Finally, we have the admissions of Hastings and Lieber that the results secured were very erratic. Hastings said (James R. p. 519) that the results were "highly variable", and Lieber testified (James R. p. 607) "it ran from nothing in some cases to as high as 75 and 80% in other cases". This unreliability in operation is ample indication that there was something radically wrong. No machine with the variation of results testified to by Lieber and Hastings can be said to be an operative success or even to have emerged from the stage of experimentation.

Excuses Offered for the Muskogee Failure.

Many excuses are offered for Hastings, but if the incubator had been an operative success no excuses would have been necessary.

One excuse is that the eggs brought into Hastings' plant were of poor quality and that is the reason they did not hatch. On the contrary, however, each of his dissatisfied customers was an experienced poultryman and had normal success with the same eggs in the old fashioned way. Another excuse for the failure of the Hastings incubator is that it was a financial failure due to the fact that Hastings charged only one cent for hatching an egg and that price was too low, but Hastings testified that he purchased for their own production thousands of eggs of good hatching quality from other sources throughout the season (James R. p. 519), and Lieber testified that Hastings was hatching his own eggs at the same time that he was doing hatching for others ("custom hatching") (James R. p. 623). Therefore, the one-cent rate does not excuse very much in any

event and no reason has been advanced as to why that rate could not have been raised.

In writing in the "Boston Sunday Globe" in November, 1912, Hastings ascribed his failure to the weather (James R. p. 575).

Respondents have also urged that the fan installed in the Hastings hatchery was insufficient in volume. When Hastings built the incubator he installed a fan which he secured from a moving picture theatre which Lieber owned. This fan was admitted to have been a failure (James R. p. 516; 561) and the disastrous hatches were attributed to it. The claim is made that when it developed that the first fan was a failure, Lieber purchased a new blower type fan from the American Blower Company of Detroit, Michigan, and this fan was substituted for the inadequate ventilation fan. The record lacks any documentary proof of the purchase or delivery of this fan, nor is any excuse offered for the failure to substantiate this testimony. None of Hastings' customers ever saw the blower fan. The fan which is shown in the photograph Exhibit 26 C (James R. p. 1126) and which is reproduced in the "Electrical World" of July 6, 1912 (James R. p. 1120), referred to by the Court of Appeals, is the open bladed ventilation fan which Hastings claimed he used "before the main hatching work of the season was under way" (James R. p. 517). However, this photograph was taken at the same time as the photograph Exhibit 26 D (Hickox, James R. p. 597) and Hastings said the latter was taken in the height of the hatching season (James R. p. 526). Lieber, testifying for the respondents, said that the new fan was purchased and installed in January, 1912, "within three days after he first started the incubator with eggs in it", and before Hastings had completed any hatches in the machine (James R. p. 615). This contrariety of testimony not only nullifies this excuse for the failure of the hatches, but places Lieber and Hastings in direct contradiction. An electrician, Peabody, was called to testify

as to the installation of the blower fan, but he testified to an entirely different state of facts when he said (James R. p. 601) that the *second* fan was one which "we had furnished to Judge Lieber some time previous", thus destroying the testimony of Lieber and Hastings that a new blower fan was purchased from the American Blower Company and installed in the hatchery.

At the time of taking Lieber's deposition, a blower fan illustrated in the photographs (Exs. 22 B-F; James R. p. 1113-14) was exhibited at Hastain's farm and was offered in evidence as the blower fan concerning which Lieber and Hastings testified. *This is not the fan.* It is a spurious substitute. At three places in the James record and in testifying in the *Cooley* case (p. 516, 537, 567, 663), Hastings said the blower fan had an 8-inch outlet. Respondents attempted to introduce these photographs without producing the fan, and Lieber testified that he "thought it was an 8-inch fan" (James R. p. 614). It was only upon the insistence of petitioner that the parties were conducted to the fan itself (James R. p. 662). *When measured, the fan had a 12-inch outlet and not an 8-inch outlet as repeatedly stated by Hastings.* In other words, the spurious fan produced by Lieber was over twice as large as the fan which Hastings testified was installed (James R. p. 663, 664). Respondents have sought to belittle this serious discrepancy, but it is plain from the record that the fan now offered is not a true relic of the Muskogee incubator.

Finally, respondents have sought to excuse the testimony of the customers who had such discouraging results from Hastings' Hatchery by claiming that Hastings stole their chickens (James R. p. 647).

Hastings' Port O'Connor Hatchery.

In May, 1912, Hastings was in a "mess" (James R. p. 775). The dream of success and fortune to be made from

his ideas collapsed and he surveyed the ruin all around him. He borrowed $100 from Lieber, and shook the dust of Muskogee from his feet, wholly disgusted and defeated, and never returned. Some eggs were still in the machine but he left without caring to find out what happened to them (James R. p. 570). He told Lieber to do the best he could and fled (James R. p. 775). When he started in the early part of the year, he had planned to double the capacity at Muskogee; and the Kansas Agriculture College had agreed to build an incubator there if the Muskogee experiment proved to be a success (James R. p. 567). But opportunities like these which had seemed to present such glowing prospects earlier in the year had all been lost in the failure of the Muskogee incubator and Hastings went to Petaluma, California, looking for a job (James R. p. 581).

Receiving no encouragement at that poultry center, he next appeared at Port O'Connor, Texas, whence emanated the statement in the "Boston Sunday Globe" of November 10, 1912:

> "At Port O'Connor with more experience and more funds at his command, Mr. Hastings has far excelled his previous efforts and has here completed and begun operating what is unquestionably the greatest hatchery ever built" (James R. p. 574).

At Port O'Connor, Hastings built a new incubator with 150,000 egg capacity and differing in construction from both the Muskogee and Brooklyn plants, but this incubator was never operated beyond placing one batch of 720 eggs in it (James R. p. 573). That was all that was ever done at Port O'Connor. After this one hatch, Hastings fled again, and, except for the brief sojourn with the Hall Incubator Co., this marked the end of his experimental work until long after Smith perfected his process, received his patent and was operating a highly profitable incubator enterprise at Cleveland, Ohio.

However, and illustrating the unreliability of the Hastings publicity, his admitted failure did not prevent him from spreading false statements and claims of remarkable success. An article entitled "Hatching Chickens by Wholesale" appeared in the "Technical World" of April, 1913, in which the Port O'Connor plant is represented as a going concern with 150,000 egg capacity, with compartments holding 10,000 eggs, and capable of "turning out a chicken every twelve seconds" (James R. p. 573).

Hastings' Subsequent History.

Hastings next connected himself with the established Hall Incubator Company, for which he designed a still different incubator. This, too, was a failure (James R. p. 575, 576) and he left that company.

In 1917 or 1918, he was called to Tiffin, Ohio, at the instance of a poultryman named Hoppel, but on his way stopped off in Cleveland to see Dr. Smith who was then in full operation in his own plant and had started the Buckeye Company in the manufacture of the successful Buckeye Incubator using the Smith principles. His object was to secure employment from the successful inventor but he failed (James R. p. 576).

He then went on to Tiffin and after having learned how the Smith incubator operated from his employer, he there built a hatchery in which he "tried out a method of hatching very much more like the Smith Buckeye devices than I had used in the past" (James R. p. 577). Again, at the Hoppel plant, Hastings spread himself in print, writing the article entitled "Hastings' Mechanical Draft Chick Hatchery" which appeared in the "Reliable Poultry Journal" of April, 1918 (Deft.'s Ex. 20, James R. p. 1106-1109). In this article Hastings lauds himself as the inventor of the successful incubator.

Even with the benefit of the knowledge he had acquired from Smith, Hastings could not make a successful incu-

bator, and after another season at it, he left and never again engaged in the incubator business. From incubators he turned to the literature of tabloid periodicals. Since the complete failure of his series of experiments at the several places named, his sole function in the incubator field has been that of an itinerant witness, ready and willing at all times to testify at the behest of infringers of the Smith patent. His career in this field is set forth at page 54 of the *Hall* record and he said it had proven to be a much more profitable one.

POINT III.

Neither in the Hastings abandoned application as filed, nor in the subsequent amendments thereto did Hastings disclose the Smith invention.

Hastings filed his application for patent in May, 1911, after the partially filled Davis incubator had been given a brief trial. The application (James R. p. 731) contains a full disclosure of Hastings' idea that "the problems of refrigeration and the problems of incubation were very similar, in fact we might say identical" (Hastings, James R. p. 540). Hastings admitted (James R. p. 541) that his "invention" did not go beyond the adaptation of the cold storage process to incubation and that he finally abandoned the application when the Patent Office held that such a conception was not patentable. Hastings did not understand heat development in a large mass of eggs, nor the importance of balancing endothermic and exothermic eggs, since otherwise he would have mentioned them in the application. Nor did he realize the necessity for vigorous current movement of air through the eggs, since otherwise he would not have shown fabric partitions above and below the egg chamber through which the air had to filter to and from the chamber and which were effective obstructions to air movement.

The application was promptly rejected. On June 19, 1911, Hastings presented an argument for allowance based solely on the substitution of a fan-impelled circulation of air rather than natural draft (James R. p. 736). He was again and finally rejected August 14, 1911. He then appointed the firm of Church & Church as his attorneys (James R. p. 740-741). On May 24, 1912, these attorneys filed a new claim (James R. p. 743). With this claim was presented an argument in which appears the first reference to the varying temperatures of eggs during the process of hatching.

This communication to the Patent Office followed Hastings' disastrous experiences at Muskogee. It is probable from this sequence of events that it was through his experiences at Muskogee that Hastings learned that heat generated within eggs makes mass incubation a vastly different problem from the preservation of inanimate foodstuffs in cold storage.

Hastings' attorneys wrote that he believed the heat characteristics of the eggs "to be one of the principal reasons why, *up to the present time*" (May 24, 1912) "hatcheries of large capacity have proven to be practical failures" (James R. p. 744). This appears to be a reference to Hastings' own abortive efforts, particularly as in the following sentence he said he had "by a painstaking and very costly series of experiments" discovered the reason for this failure. But he had no other remedy to offer than mechanically forced circulation of air. *There is no suggestion in this entire argument that setting in staged incubation was a necessary or desirable step toward the solution of the problem* and the rate of air movement indicated is far below that which experience has shown is essential to successful operation.

The application was appealed to the Board of Appeals of the Patent Office, and on December 20, 1912, after the abortive attempt at Port O'Connor, Texas, a brief was filed. In this brief Hastings' attorneys commented at

greater length on the difficulties arising from the heat development in the eggs. But this discussion must be viewed in the light of what *Hastings* had done, because an abandoned application can be used only to "clarify the character of a claimed prior use", a principle which the Court of Appeals stated (Hall R. p. 242) but failed to apply.

A serious error of the Court of Appeals was in viewing this file wrapper argument in the light of what *Smith* did, and, knowing what *Smith* did, reading his process into the argument.

It will be recalled that at Muskogee Hastings built a seven-compartment incubator with the eggs in a different stage of advancement in each compartment, each setting being moved to a new compartment every third day. A single fan propelled air to all the compartments but each compartment had its individual damper which could be positioned to regulate the freedom of entrance of air into the compartment and thereby maintain the different temperatures in the several compartments at the points desired. This is not staged incubation, and it is not the invention of the Smith patent. It is a procedure which has never been used successfully by any one so far as the record shows.

This Muskogee procedure is what is referred to in the brief in the file wrapper of the Hastings application. Neither the specification of the Hastings application, nor the drawing of that application, nor the brief referred to by the Court of Appeals, nor any other document connected with the application contains that essential of the Smith invention commonly referred to as "staged incubation". The distinctive requisite of staged incubation as practiced by Smith is that eggs in various stages of incubation are subjected to the same body of air, moving in repeated cycles over all the eggs and thus maintained at the same temperature throughout the entire process. In accordance with the unsuccessful Muskogee operation, however, there were eggs in seven different stages of incubation, in seven different chambers or compartments, and receiving seven differ-

ent currents of air which maintained seven different temperatures in the seven compartments.

The opinion of the Court of Appeals contains nothing indicating that the Court understood what was the actual method of operation of the Muskogee incubator as developed in the testimony of Lieber and shown by the contemporaneous Hastings' publications, to which we have referred. Instead, the brief filed in connection with the Hastings application appears to have been read by the Court with the *Smith* invention in mind, whereas it should have been read with the Muskogee operation in mind, for it was written in Hastings' behalf shortly after the conclusion of the Muskogee effort. When the brief is read as it should be, keeping in mind the knowledge available at the date when it was written and without aid from the subsequent invention of Smith and the successful utilization of that invention, it becomes apparent that the brief does not refer to what has since become known as "staged incubation." Instead, the reference throughout is to such a procedure as that practiced by Hastings at Muskogee involving the use of several compartments, each containing eggs in some *one stage* of incubation, and separately regulable dampers for each compartment whereby its temperature may be adjusted independently of all of the others to maintain therein a temperature different from those in the others. That is not the staged incubation of the Smith patent. It is for that reason that the Hastings application, with or without the brief filed in connection with it, contains no disclosure of this essential of the Smith invention.

Nor does the application, with or without the brief or any other paper filed in connection with it, disclose another of the essentials of the Smith invention referred to in claim 1 as maintaining in the egg compartment of the incubator a movement of air

"of sufficient velocity to circulate, diffuse and maintain the air throughout the chamber at substantially the same temperature, whereby the air will be vitalized, the moisture conserved and the units of heat will be carried from the eggs in the more advanced stage of incubation to those in a less advanced stage."

The Hastings application is entirely indefinite as to the volume and velocity of the air movement within the incubator. It illustrates and describes an incubating chamber having a fabric covering at its top and bottom through which the air impelled by the fan is said to flow. Any such fabric covering would so impede the air flow as greatly to restrict its rate of movement (*supra*, p. 25, 26 and James R. p. 551, 552). No data was supplied by Hastings or any other witness as to the rate of air movement in either the Davis incubator at Brooklyn or the incubator installed at Muskogee. It may well be that one of the elements contributing to the failure of the Davis incubator was the suppression of the air movement by these fabric coverings. At Muskogee there were wooden partitions where these fabric coverings were in the Davis incubator and these wooden partitions had openings in them with dampers to regulate their size. So far as the record evidence goes, these dampers may have been so regulated as to make the rate of air movement substantially the same as that which occurred in the Davis incubator, and therefore one of the elements which contributed to the failure of the Muskogee incubator may have been this same lack of sufficient air flow.

The brief filed in connection with the Hastings application, referred to and quoted from in the Court of Appeals' opinion, supplies one item of more definite information on this particular point than is to be found elsewhere in the record. In this brief it is stated that the rate of flow of air through the egg chamber is 30 feet a minute (James

R. p. 756). This speed of 30 feet a minute or 1,800 feet an hour, or one-third of a mile per hour, is an exceedingly low speed. It is about one tenth of the speed at which a man normally walks. A movement of air at that rate would hardly be perceptible, would not overcome convection currents, and could not persist in current form through the eggs. That air movement is of such an entirely different order from the speeds which have been employed in the incubators which have attained commercial success as to justify the view that, with such a low speed of air flow, successful operation would be precluded no matter what was the construction of the incubator and no matter what was the method of operation in other respects. The records of these cases show that successful commercial mass incubation cannot be practiced with a speed of air movement of the general order of 30 feet per minute.

The record evidence on this matter of speed of air movement is that in the Smith and James incubators the average speed of movement of the air through the egg chambers is 135 feet to 142 feet per minute (James R. p. 474-5). In the Snow and Robbins (Waxham) incubators where no guiding means are provided for the air currents, the speed of movement of the air is approximately four times greater than in the Smith incubator (Snow R. p. 110; Waxham R. p. 303).

Thus, the summary of all this is that all that was done by Hastings as evidenced by his Brooklyn incubator, his Muskogee incubator and his application for patent with all the documents relating to it, was characterized by absence of two essentials of the Smith invention, namely, staged incubation, and a sufficient velocity of the air circulating through the egg chamber to accomplish the purposes and functions essential to successful mass incubation as specified in claim 1 of the Smith patent.

In the Davis installation there was no staged incubation, and the fabric coverings of the top and bottom walls of the egg chamber precluded air movement with sufficient velocity. In the Muskogee incubator there was likewise no staged incubation and no proof suggesting that the rate of air movement was at all greater than that employed at Brooklyn. In the patent application as filed there is no disclosure of staged incubation, and the illustration includes just such fabric coverings as were employed at Brooklyn.

Considering the brief filed by Hastings' attorneys as supplementing the disclosure of his application, the disclosure thus supplemented remains unchanged except that, as noted above, there is more specific statement that the rate of air circulation is definitely low, altogether too low to effect the desired purpose, and far lower than has ever been found effective in practice.

The drawing of the application shows but one egg compartment whereas reference is made in this brief to several egg compartments. This reference to several egg compartments must, therefore, have been reference to several egg compartments employed as Hastings employed them in the Muskogee installation where the arrangement of the eggs was not that appropriate for staged incubation, and all of the statements in the brief are consistent with that assumption.

Giving to the statements in the brief about the arrangement of the eggs in the several chambers any other interpretation involves applying to them the later acquired knowledge contributed to the art of incubation by Smith, and that is precisely what should not be done. Those statements should be read in the light of the knowledge then existing, that knowledge which left the art of mass incubation with an unsolved problem which workers in the art strove for years to solve before the real solution was ultimately attained by Smith.

THE HASTINGS APPLICATION CAN BE USED ONLY TO CORROBORATE OTHER TESTIMONY OF THE PRIOR USES.

After the filing of the brief, the Hastings application was rejected by the Board of Examiners in Chief, and the application was then abandoned.

It is well settled that an abandoned application for patent cannot be used to anticipate a later issued patent. This principle of patent law was stated by this Court in the *Corn-Planter Patent*, 23 Wall. 181, where it was said (p. 210-211):

> "Were it not for the application for a patent it would justly be regarded as an abandoned experiment, incapable of being set up against any other claim. Can the fact that such an application was made and afterwards voluntarily withdrawn, and never renewed, make any difference? We think not. Had a patent been actually granted to Remy & Kelly, it would have been different. The case would then have come directly within the seventh section of the act of 1836, which makes a 'patent' or a 'description in a printed publication' of the invention claimed, a bar to a further patent therefor. But a mere application for a patent is not mentioned as such a bar. It can only have a bearing on the question of prior invention or discovery. *If upon the whole of the evidence it appears that the alleged prior invention or discovery was only an experiment and was never perfected or brought into actual use, but was abandoned and never revived by the alleged inventor, the mere fact of having unsuccessfully applied for a patent therefor, cannot take the case out of the category of unsuccessful experiments.*"

The only bearing which this application can have upon the Hastings alleged prior use or prior invention is in substantiating (if it does) the testimony of witnesses as to

operations of the Hastings installations carried on contemporaneously with the several communications to the Patent Office (see *U. S. Blind Stitch* v. *Reliable*, 67 F. [2d] 327).

The abandoned application cannot be used to create a doubt as to the process which Hastings actually used, and then, having created this doubt, to resolve the doubt by concluding that the process used was something different from that referred to in the testimony. When, as in the instant case, the construction of the incubator and the process employed have been established by the testimony of witnesses and the contemporaneous publications, the abandoned application cannot be used to establish a different thing. Thus we find in the brief filed in the application that at certain points the evidence given by Lieber is confirmed, and at other points the disclosure is vague but not contradictory of Lieber's testimony. In such circumstances, the only permissible use of the application or documents filed in connection with it is in confirmation of the evidence, not in contradiction of it.

Instead of corroborating the statements of witnesses for respondents that Hastings practiced staged incubation at Brooklyn, or realized its value and importance, the application as filed contemporaneously with his Brooklyn experiments contains no disclosure of staged incubation. Instead of showing that Hastings then had a conception of current movement of air with sufficient velocity to accomplish the purposes of the Smith invention, the fabric partitions illustrated and described in the application as located at the top and bottom of the egg chamber would admittedly choke off any current of air.

The amendment of May 24, 1912, does not corroborate the use of staged incubation at Muskogee, for there is no disclosure of that step. This amendment nullifies the claim to successful use at Muskogee (or Brooklyn) for it speaks of "a painstaking and very costly series of experi-

ments" and says that "up to the present time, hatcheries of large capacity have proven to be practical failures."

The brief of December 20, 1912, gives no adequate description of setting eggs in staged incubation; it discloses inadequate forced draft; and for the reasons stated, it does not disclose the maintenance of constant air temperature for all ages of eggs.

The reference in the brief (James R. p. 752) to "a vast number of eggs subjected to the same temperature and atmospheric conditions best adapted for the development of the embryo", which the Court of Appeals quoted (Hall R. p. 406), applies to the Hastings' method for Hastings proposed to maintain a uniform temperature in each compartment containing 5,000 eggs, although the temperature of the several compartments was progressively increased.

On the next page, the brief writer referred to "eggs assembled in a single compartment and with eggs at all stages of incubation". This statement, also, is consistent with an operation in which the eggs in any one compartment are all of one age, and refers to progression of incubation in the several compartments. The statement immediately following that "the eggs in the later stages of development supply the necessary heat for the eggs in the earlier stages of development", applies equally well to the process which Hastings actually employed at Muskogee, for in that process the excess heat in one compartment in which the eggs are in a later stage of development is supplied to another or other compartments in which the eggs are in an earlier stage of incubation. It will be noted that this passage does not state or even suggest that the temperatures within the several compartments are the same. On the contrary, it is consistent with the method of operation which the evidence shows Hastings employed, namely, segregating the eggs in individual compartments according to their ages and carefully regulating the air inlets to the

several compartments to produce progressively increasing temperatures therein in accordance with the progressive stages of incubation in the compartments.

Thus these detached portions of the brief which have been thought to indicate the Smith process by some who have acquired knowledge of the Smith invention rather recently, do in fact relate to and describe the wholly different process which the evidence shows Hastings actually employed.

Positive support for this statement appears at other points in the brief. At the bottom of page 754 it is said:

> "Furthermore in the incubating process during the final stages of the development the external heat supplied must be greatly reduced."

This is true of the procedure employed by Hastings at Muskogee, but it is entirely foreign to the Smith process wherein there is no change in the amount of "external heat" applied, the same temperature being maintained continuously and applied at all times to eggs in all stages of incubation.

Again, on page 755, it is stated that

> "air is drawn positively through a circulatory system and may be modified at any point during its circulation."

This is fairly definite reference to the dampers at the top of the several chambers of the Muskogee incubator, whose function was to regulate the amount of air admitted to each chamber in order to maintain progressively increasing temperatures in the several chambers. In the Smith procedure there is no modification of the current at any point in its circulation.

It is impossible to reconcile these passages with the idea that Hastings then had any conception of the Smith pro-

cedure or that he disclosed in his application for patent a method or apparatus for incubating in accordance with the Smith invention. On the other hand, all the statements in the brief, like those in the contemporaneous documents, are consistent and have a definite meaning when applied to the procedure employed by Hastings at Muskogee as described by Lieber.

Furthermore, the proof of the matter is found in the failure of Hastings to achieve the commercial and practical success for which he was striving. If the statements in the brief were really descriptive of the Smith process, and if Hastings had in truth employed that process at Muskogee or anywhere else, he would have solved the problem of mass incubation. But, then, the disastrous termination of the Muskogee venture and the failure and abandonment of all Hastings' efforts, would be inexplicable. Nor would it be possible to reconcile Hastings' statement that six years later at Tiffin, Ohio, he "tried out a method of hatching very much more like the Smith-Buckeye device than I have used in the past" (James R. p. 577), with the view that he had used the Smith process at Muskogee and had disclosed it to others in December, 1912.

If Hastings had discovered in 1912 the principles of the Smith invention and the vital properties of staged incubation, he must have realized also the inadequacies of his pending application as a basis for a patent upon this process. Had all of the features of successful mass incubation been developed by Hastings at Muskogee, it is most probable that he would have filed a new application for patent thereon containing claims covering the invention. But he made no such application and presented no claim to what is now said to have been originated and practiced by him.

The claim which was presented to the Patent Office and rejected by the Board of Examiners in Chief, appears on

page 759 of the James Record.* It sets forth the Hastings proposal as he then conceived it. When analyzed, it is nothing more than the use of a power driven fan within an incubator. It contains no reference to staged incubation or to the utilization of the endothermic and exothermic properties of the eggs in the various stages of advancement in incubation.

Hastings had made no further progress than Smith had made in 1913 and 1914 before *he* conceived the idea of setting the eggs in "staged incubation" in a single chamber, subjecting them to the *same* body of air at the *same* temperature and increasing the current flow of air to accomplish the purposes set forth in Claim 1 of the patent. In rejecting the defense of prior use by Smith, this Court said:

> "At the time indicated he" (Smith) "used commercially an incubator arranged in three completely separated compartments in each of which was circulation of air by a fan. But there was no staged incubation in any single compartment" (*Snow* Case, p. 16).

So here, the gist of Hastings' application, embodied in the claim, does not anticipate the Smith patent for the same reason that Smith did not invalidate his own patent by the mere use of a fan in an incubator.

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*"A hatchery for eggs embodying an incubating chamber adapted for the reception of superposed trays for eggs to be incubated, whereby said eggs will be arranged in layers one above the other, means for effecting a distribution of air uniformly to the eggs in the chamber, means for heating the air, and mechanically operated means for forcing a uniform circulation of air through all parts of the chamber and past the heater, whereby convexion currents will be eliminated, temperature and gaseous stratification of the air in the chamber overcome, and the eggs subjected to the influence of air of the same temperature and composition."

Finally as to the brief filed with the Hastings application for patent, the statement by the Circuit Court of Appeals that "the attorney's brief does not represent a new idea but a clarification of an old one," is founded upon a wholly erroneous conception of what the "old" idea was. The true purport of the brief is to confirm the established fact that the "old" idea of Hastings comprehends no part of the novel idea of mass incubation contributed to the art by Smith.

POINT IV.

Under established principles of patent law the Hastings defense must be rejected.

Success Is Not Anticipated by Failure.

The annals of the patent law are crowded with examples of alleged prior uses and prior inventions which have been presented in their most attractive form as complete anticipations of successful patented inventions. Courts have repeatedly rejected and commented on such abortive efforts put forward with unsound claims to some real achievement and prolific excuses for the failure to achieve more, all in the effort to destroy valuable patent rights built on persistence, skill and inventive genius. Success made Smith a shining mark for the disgruntled and unsuccessful, who, having failed to achieve success, became obsessed with a desire to destroy that which they could not create.

A most striking resemblance to the situation here is found in the telephone cases. In those cases Bell was beset by the claims of many that they and not Bell had invented the telephone. Bell was forced to litigate his patent against plausible claims of prior inventorship and prior uses which bore much greater resemblance to his successful work than is found between Hastings and Smith. The experiences of the "prior inventors" and "prior users" who

were set up against Bell were colored with more evidences of success and the devices they made bore closer superficial resemblance to those of Bell than is true of Hastings in his relation to Smith. The closest approach to Bell was Reis who *almost* made the revolutionary invention of transmitting speech. In the words of this Court (126 U. S. 544-545):

> "It was left for Bell to discover that the failure was due not to workmanship but to the principle which was adopted as the basis of what had to be done. • • • Reis never thought of it, and he failed to transmit speech telegraphically. Bell did, and he succeeded. Under such circumstances it is impossible to hold that what Reis did was an anticipation of the discovery of Bell. To follow Reis is to fail, but to follow Bell is to succeed. The difference between the two is just the difference between failure and success. If Reis had kept on he might have found out the way to succeed, but he stopped and failed. Bell took up his work and carried it on to a successful result."

So, here, Hastings was striving for success in the same field as Smith. Perhaps he *almost* succeeded. *In fact* he did not. His failure was due to his inability to grasp *all* of the essentials of mass incubation, or his failure to put all of them together appropriately to form an operative whole. In his vacillations from scheme to scheme, he never arrived at the answer to the problem. His defeat and consequent abandonment of his incubator have no other explanation than a lack of realization of the invention.

Earlier in this brief we have referred to *Coffin* v. *Ogden* (18 Wall. 120). This is the leading case upon *near* anticipations and the pithy summary contained at page 124 cannot be improved upon:

> "If the thing were embryotic or inchoate; if it rested in speculation or experiment; if the process pursued for its development had failed to reach the point of consummation, it cannot avail to defeat a patent founded upon a discovery or invention which was completed, while in the other case there was only progress, however near that progress may have approximated to the end in view."

In *Consolidated Valve Co.* v. *Crosby*, 113 U. S. 157-179, this Court used language which is particularly apt:

> "Richardson's invention brought to success what prior inventors had essayed and partly accomplished. He used some things which had been used before, but he added just that which was necessary to make the whole a practically valuable and economical apparatus. The fact that the known valves were not used, and the speedy and extensive adoption of Richardson's valve, are facts in harmony with the evidence that his valve contains just what the prior valves lack, and go to support the conclusion at which we have arrived on the question of novelty."

No doubt the art, represented by Hastings, Lawry and the numerous patentees cited by respondents, was groping for the solution to the problem of mass incubation because ample reward for the solution was an obvious certainty, but it remained for Smith to achieve it. In the words of *Eibel Co.* v. *Paper Co.* (261 U. S. 45-68):

> "The fact that in a decade of an eager quest for higher speeds this important chain of circumstances had escaped observation, the fact that no one had applied a remedy for the consequent trouble until Eibel, and the final fact that when he made known his discovery, all adopted his remedy, leave no doubt in our minds that what he saw and did was not obvious and did involve discovery and invention."

Finally, we quote a recent publication "Invention and the Law", not merely because it was written by opposing counsel but because it states the rule concisely and clearly, and applies with peculiar force to the situation here. It was shown in the *Snow* and *Waxham* cases that Smith succeeded only after efforts extending over nine years, marked by successive financial failures followed by ultimate success. Hastings quit in his efforts after two years. Says this author, citing a host of authorities (p. 158):

> "The award for invention goes to the persistent and the successful. Those who almost accomplish an invention, but abandon it before final completion, are not inventors. Their labors cannot be used to show lack of invention on the part of another person who takes the same idea where the former inventor left off and is persistent enough finally to complete it and make it a success. It is the final inventive step that wins.
>
> "The extent of the inventor's efforts to accomplish his inventive act, the amount of money he spends in experiments, and the failures he encounters which he finally conquers, are all factors taken into consideration in determining whether the final inventive step that he takes, however small, is a step that constitutes invention because it brings final success."

Prior Invention and Prior Uses Must Be Established by Evidence Which Leaves No Reasonable Doubt of Their Existence and Efficacy.

Consider this well settled rule in connection with the outstanding features of the evidence submitted in support of the Hastings defense, including, among others, (1) the absence of contemporaneous record of eggs incubated and chicks produced in any operation of any Hastings incubator, (2) the absence of contemporaneous description in any satisfactory detail of either the construction or the method of operation of any Hastings incubator unless one assumes

that the abandoned patent application describes the Brooklyn (Davis) incubator, (3) the admission of exaggeration in the articles in the publications in evidence, (4) the discrepancies between the testimony of Hastings and other witnesses, particularly Lieber, (5) the discrepancies between the testimony of witnesses in these cases and the same witnesses in prior suits, (6) the discrepancies between the testimony of witnesses and the publications, (7) Hastings' admitted jealousy and resentment of Smith's success, (8) the great number of years which elapsed between the recollection testimony of the witnesses and the events about which they testified, and (9) the conclusions expressed by those judges who had the advantage of seeing and hearing Hastings and other witnesses for respondents when they testified.

This being the character of the defense proofs, the case presented is peculiarly one for application of the principles announced and applied by this Court in the *Barbed Wire Case* cited and quoted from above (*ante*, p. 14).

Other pertinent comment of this Court is found in the *Eibel* case, 261 U. S., where this Court said (p. 60):

> "The temptation to remember in such cases and the ease with which honest witnesses can convince themselves after many years of having had a conception at the basis of a valuable patent, are well known in this branch of law, and have properly led to a rule that evidence to prove prior discovery must be clear and satisfactory."

And in *Deering* v. *Winona* (155 U. S. 286-301) where this Court said:

> "Granting the witnesses to be of the highest character, and never so conscientious in their desire to tell only the truth, the possibility of their being mistaken as to the exact device used, which, though bear-

ing a general resemblance to the one patented, may differ from it in the very particular which makes it patentable, are such as to render oral testimony peculiarly untrustworthy; particularly so if the testimony be taken after the lapse of years from the time the alleged anticipating device was used. If there be added to this a personal bias, or an incentive to color the testimony in the interest of the party calling the witness, to say nothing of down-right perjury, its value is, of course, still more seriously impaired. This case is an apt illustration of the wisdom of the rule requiring such anticipations to be proven by evidence so cogent as to leave no reasonable doubt in the mind of the court, that the transaction occurred substantially as stated."

POINT V.

The respondents have used the Smith invention and infringed upon the patent.

Hall Brothers.

In the case of Hall Brothers (No. 35) there can be no question that infringement is present. These respondents are large and wealthy hatcherymen located at Wallingford, Connecticut, where they have for a number of years operated incubators identical in construction and mode of operation with the Robbins incubator involved in the *Waxham* case. This incubator consists of a closed cabinet containing many thousands of eggs set at semi-weekly intervals in staged incubation. The incubator has large fans on the rear wall of the cabinet, and restricted inlet and outlet openings for the interchange of limited amounts of fresh and foul air, all exactly as in the *Waxham* case, and the current movement of the air through the cabinet is identical with that employed in the *Waxham* incubators. This is testi-

fied to by petitioner's expert, Mr. Taggart, at page 44 of the *Hall* record, and is not disputed.

At the beginning of the infringement, Hall Brothers used the same #23 Robbins incubators of 23,000-egg capacities which were used by *Waxham*, together with some smaller #17's of 17,000-egg capacity, which, except for reduction in size, were the same as the #23's (Hall R. p. 39).

About 1931, following adverse decisions in the *Waxham* suit, of which respondents were promptly notified (Hall R. p. 42), they modified their practice by removing the eggs from the main chamber on the 18th day, and placing them in a separate chamber. By this change of procedure, the eggs which had reached substantial maturity were removed for the actual hatching of chicks.

The incubators which were used for the 18-day operations were known as the Robbins #26*. They are shown in the manufacturer's advertisement (Pltf.'s Ex. 7, Hall R. p. 120), and the interior construction is shown in Exhibits 4, 5 and 6 (Hall R. p. 117-119). In this incubator, the same tilting egg drum is used in which the eggs are placed at semi-weekly intervals so that there are in the racks a plurality of settings, ranging from fresh eggs to eggs which have progressed through eighteen days or 18/21sts of the entire incubating period. As the respondent Hall said with respect to this operation (R. p. 40):

> "Instead of hatching the eggs in the racks to the left" (as in the old 23's) "we simply put them in our new #10 hatchers."

It will be recalled that an egg passes from the endothermic to the exothermic phase on or about the 10th day (294 U. S. 4).

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*A Robbins #62 unit comprises two #26 incubators of 26,000 egg capacity and a hatching unit of 10,000 egg capacity to serve the two incubating units. (See Hall R. p. 120.)

Infringement is not avoided by the expedient of removing the eggs on the 18th day of incubation, for with this setting practice the eggs in the incubator are about equally divided between endothermic and exothermic eggs.

As stated by the respondent Hall (R. p. 77):

> "XQ68. That is to say, if you set all your eggs at one time in the 26 incubators, you would have them all reaching the heat generating stage at the same time, would you not? A. Yes.
>
> XQ69. And you would have them when you first started in all in the heat absorbing stage at the same time? A. Yes.
>
> XQ70. You have by your principle of operation of the 26, you have a balance or an attempt to balance those two properties of the eggs, you have some eggs that are absorbing and some that are heat generating in operating your 26? A. I believe so."

As the respondents in both cases (*Hall* and *James*) rely upon this eighteen-day defense, we will discuss it more fully at pages 82 to 86, *infra*. For the present, it suffices to say that, in the operation of the #26 Robbins incubators, Hall has used the process set out in Claim 1 of the patent in suit, and particularly as defined by this Court in the *Snow* case. Judge Hincks so held, saying (Hall R. p. 221):

> "The method used by the defendants in the use of all of the Robbins machines above specified involved the arrangement of the eggs at different levels in staged incubation in a closed chamber, having restricted openings of sufficient capacity for the escape of foul air without undue loss of moisture; the application to the eggs of heated air in a current created by means other than variation of temperature; the current of air being of sufficient velocity to circulate, diffuse and

maintain the air throughout the chamber at substantially the same temperature, whereby the air is vitalized, moisture conserved, and the units of heating carried from the eggs in the more advanced stage to those in the less advanced."

James Manufacturing Co.

In the *James* case, the principal respondent, James Manufacturing Company, is a manufacturing corporation having a plant and place of business at Elmira, New York, and has for many years been engaged in the manufacture and sale of incubators.

For many years prior to the infringement, this company was engaged in the manufacture and sale of the old, single layer, single setting, still-air incubators. It was a violent opponent of the Smith type of incubators, strenuously advocating "Nature's Way" as superior to forced draft incubation. The James Company would have none of the "staged incubation" and "forced draft" process, and fought the adoption of this system by advertisement and propaganda (James R. p. 58-60). In 1929, however it was compelled to abandon its former stand and come out with forced-draft-staged-incubation. The old style incubator was relegated to the background and used only during the last three days of the hatching period, whereas throughout the eighteen-day formative period of the embryo, the Smith invention was employed.

In the change over to the Smith method, the James Company copied the Smith process more slavishly than either Robbins or Snow, for it used not only the principles broadly stated in Claim 1, but also the more specific steps of process Claims 2 and 3 and even the detailed structure of Claim 5 of the patent.

The illustration on page 78, which is a reproduction of Exhibit 14 (James R. p. 684) shows the "Jamesway" incubator.

The incubator is a large cabinet with a door, shown on the left. Within the incubator are the superposed egg trays, in which the eggs are set at intervals of 3½ days (James R. p. 85-86) so that, when in operation, the incubator contains eggs in "staged incubation." At the top of the cabinet are large central openings through which the air is drawn from below by the rapidly rotating fan.* This fan is of the blower or impeller type and is encased between the upper and lower surfaces of the fan housing. It draws the air by suction from the cabinet and throws it out centrifugally over the heaters through the horizontal passages. On the back of the door and on the rear wall are located two vertical partitions forming corridors which receive the current of air delivered by the fan and guide it to the bottom of the chamber. The fan is run at high speed (550 to 860 R.P.M.), and the current of air moves downward through the corridors at approximately 700 feet per minute (James R. p. 90). The air then turns upwardly and moves through the trays and around the eggs in staged incubation at speeds averaging 135 feet per minute (James R. p. 475) and is again drawn into the fan and recirculated.

Near the top of the cabinet and at the level of the fan, are located four small holes, controlled by slides, through which a portion of the air is discharged. One of these holes appears at the upper left hand corner of the drawing. On the bottom of the incubator are openings through which limited amounts of fresh air enter the cabinet. Over these openings are located four revolving arms which run at relatively low speed (210-220 R.P.M.) and the purpose

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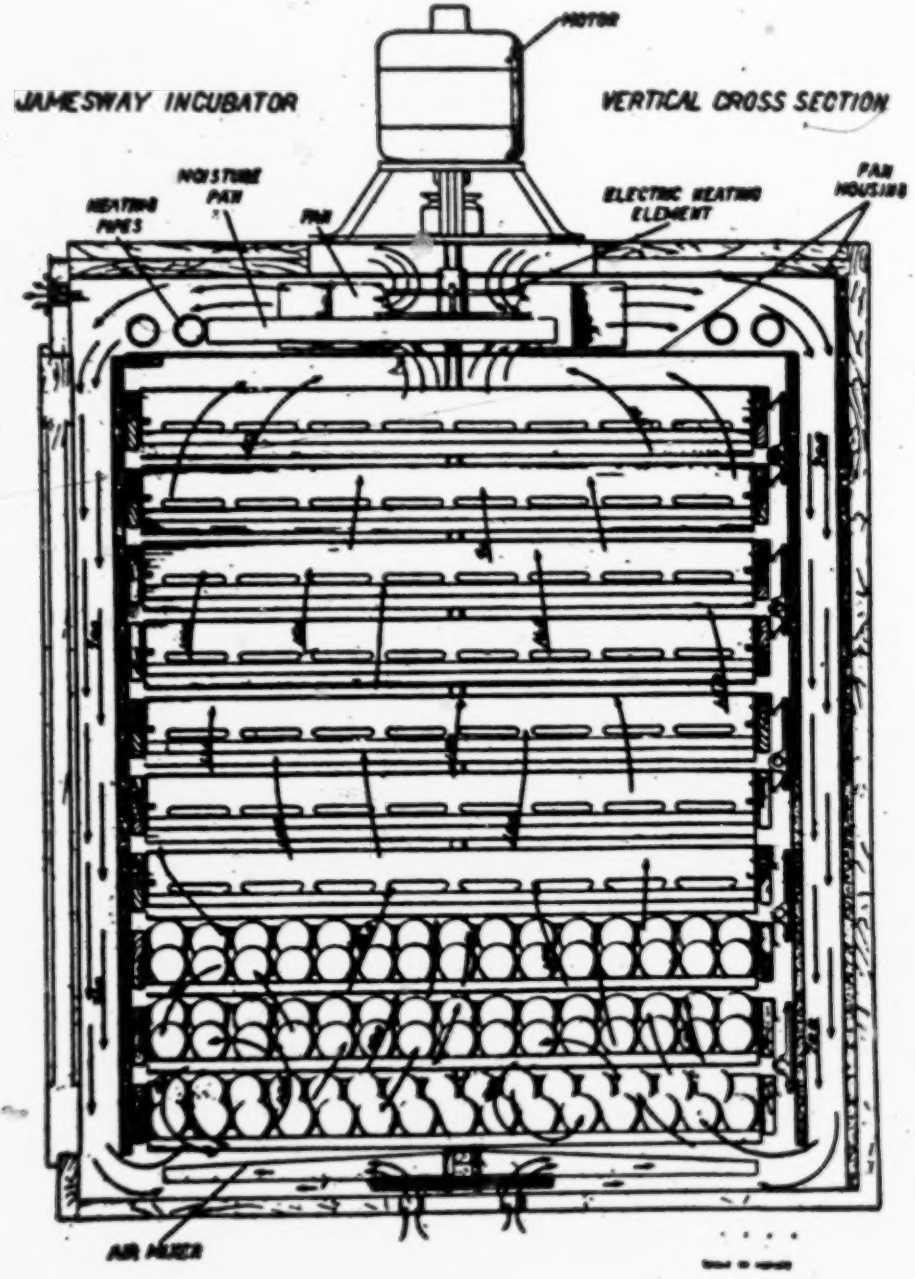
*Although respondents' expert was careful (except in three instances, James R. p. 206-207) not to call this instrument a "fan," it was repeatedly called a "fan" in respondents' instruction books and catalogues. (See James R. p. 94-95.)


JAMESWAY INCUBATOR
VERTICAL CROSS SECTION
MOTOR
HEATING PIPES
MOISTURE PAN
FAN
ELECTRIC HEATING ELEMENT
FAN HOUSING
AIR MIXER

of which is to mix the fresh, cold air into the stream as it enters the egg chamber and before it reaches the eggs.

Respondents have sought to concentrate attention upon this last named instrumentality and to minimize the upper fan. *It was thoroughly demonstrated that the upper fan is the dominant air moving instrumentality,* and that the effect of the "mixer" on the current movement of the air is negligible and localized to its immediate vicinity. This is apparent from the fact that the lower device rotates at a much reduced speed and the blades are slender sticks running in the open, while the upper fan runs at high speed, has eight broad blades, and is encased at the sides so that the air is forcibly drawn from the cabinet and thrown out centrifugally at high speed over the heaters and down through the corridors and into the cabinet. This fact is shown by the comparative charts, Exhibits 24, 25 and 26. Exhibit 24 (James R. p. 686-695) shows the current movement in the normal operation; Exhibit 25 (James R. p. 696-705) shows the movement with the upper fan only running, and Exhibit 26 (James R. p. 706-710) with the mixer only running. In this latter exhibit, the "air mixer" is shown to have no effect whatever in the top six trays (James R. p. 706). When the normal operation was conducted, the effect of the "air mixer" was overshadowed by the powerful current generated by the upper fan.

Taggart said (James R. p. 117):

> "Now, taking the movement of air through the machine, as a mass, the fan at the top of the machine is decidedly a dominating influence and the air mixer has very little effect upon the volume of air that is moving. It simply levels out the speed of the current through the bottom trays, and it also mixes, with that downward movement, the fresh air that is taken in at the bottom before it has an opportunity to contact any of the egg trays."

The District Court Judge observed the operation of the incubators and his conclusion was:

"Defendant's device is so constructed that the air is drawn upward through the tiers of egg trays to the top of the cabinet where it is thrown from the tips of the impeller blades toward the front and back of the compartment and carried downward through channels to the base of the compartment. At this point defendant has provided its device with a turbulator or agitator, a flat bladed rotating air mixer which revolves at a slower rate of speed than the impeller. The purposes are to mix the fresh air which comes in at the base of the machine into the flow of air within the machine so as to secure an even temperature throughout the compartment, and to break up the current of air so that as it rises through the tiers of egg trays it will have no defined path. In plaintiff's device the fresh air is mixed into the air flow of the machine by the propeller. This is impracticable in defendant's machine, because the impeller is at the top while the fresh air inlets are at the base of the machine. Experiments at the trial showed that the turbulator affected air currents in only a few of the lowest trays of eggs and that from that point upward the air flow tended to travel in definite paths" (James R. p. 1263).

In the Courts below, respondents argued that as the air moves at different speeds through the several trays, there cannot be a continuous current of air. This argument overlooks the fact that (except in a few isolated spots at the bottom of the cabinet) the air is all moving in the same direction. It also erroneously implies that in a current of air, the air must move at the same speed at all points. None of these variations in speed indicate that current movement of the air is not present.

This Court disposed of similar arguments of non-infringement in the *Snow* and *Waxham* cases, saying, in the *Snow* case (p. 19-20):

"That there is a mixture of the air and some confusion of its movement in the corridor, and that at

different levels within the space occupied by the tiers of trays the movement is not in the same direction, is immaterial. It is enough that there is a movement of air in current form following substantially defined paths through the tiers of egg trays, sufficient to effect the desired transfer of heat units. Claim 1 does not prescribe that a current of air is to be maintained throughout the chamber. It calls for the application to the eggs of a current of air 'of sufficient velocity to circulate, diffuse and maintain the air throughout the chamber at substantially the same temperature.' This respondents accomplish by the currents of air set in motion either directly or indirectly by the movement of the blades of the propellers. The method is that of Smith."

Finally, respondent James, in its catalogues, admitted that the air moves in a steady flow, in repeated cycles through the egg chamber, with "sufficient velocity to circulate, diffuse and maintain the air throughout the chamber at substantially the same temperature", saying (James R. p. 97):

"The air rises uniformly between all the eggs in the entire incubation compartment, without the effect of a direct blast, but with a gentle upward movement. The rising air is drawn through two openings on either side, at the top, and again mixed in the impeller compartment and starts another complete circuit of the cabinet. *The rate of air flow is rapid enough to prevent differences in temperature at different points.*"

In the James incubator, the current movement of air is created by the suction effect of the upper fan, while in Smith the current is created by the pressure of the fans, as shown by the candle tests illustrated by the photographs (James R. p. 1182-1187). It is wholly immaterial to the question

of infringement whether the current of air is drawn or pushed because the claims do not make this distinction. The actual difference in pressures within the egg chambers in the Smith and Jamesway incubators is two-thousandths (.002) of an inch in barometric pressure (James R. p. 377), a difference in pressure such as is found in the atmosphere at levels two feet apart.

Claim 2 differs from Claim 1 in that the air currents are specified to be "power driven" and that the currents of air enter the egg chamber "through openings". It is plain that the Jamesway incubator has "power driven" currents of air which enter the egg chamber through the openings at the outlets from the corridors. Claim 3 calls for a "vertically directed" current of air, which is found in the Jamesway incubator. With respect to Claim 5, the spaced partitions on the door and on the back wall provide the corridors for conducting the stream of air from the fan to the egg chamber, and in all other respects the Jamesway incubator responds to the terms of this claim.

The 18 Day Defense.

Respondents in both cases have claimed that they did not infringe because they practiced the Smith invention for eighteen days only. They did not deny that they utilized the Smith process for eighteen days, but claimed that, as they did not use it for the remaining three days, they did not infringe.

If this contention were carried to its logical conclusion, the patent could be avoided just as well by removing the eggs at the twentieth day or even an hour before actual hatching begins.

Respondents claim that by removing the eggs to another compartment they reduce the spread of B. W. D. (bacillary white diarrhea) among the hatching chicks. There is nothing to this claim, for the embryos within the

shells are shielded by the shells in a Smith or any other incubator and, therefore cannot contract or communicate disease (James R. p. 338, 488). Thus, no benefit is secured by segregating hatched chicks and unhatched eggs.

All that respondents have done by removing the eggs at the eighteenth day is to utilize the Smith process to less than its fullest extent and to deprive themselves of the full realization of its benefits by sacrificing the heat generated by the eggs in the last days of incubation. But, as is shown by the heat charts (Hall Ex. 13, p. 126; James Ex. 3, p. 676), there is more heat generated by the eggs from the 11th to the 18th days than is necessary to supply all of the heat required for the eggs up to the eleventh day (James R. p. 47).

It is well settled that one does not avoid infringement merely by using the patented invention to less than the full advantage. As stated by this Court in the *Waxham* case (p. 23):

> "Petitioner does not avoid infringement of respondent's method patent merely by employing it in a machine of different structure than respondent's, whether more or less efficiently." (Citing cases.)

In *Sewall* v. *Jones* (91 U. S. 171, 183), the court said:

> "It is not necessary that the defendant should employ the plaintiff's invention to as good advantage as he employed it, or that the result should be the same in degree; but it must be the same in kind."

That the eighteen-day operation does not destroy the essentials of the Smith invention is shown by the following very pertinent quotation from the James instruction book (James R. p. 96):

> "Do not leave the cabinet full of eggs of the same age, as, after the tenth or twelfth day, enough animal

> **heat will be created so that you cannot keep this cabinet down to temperature."**

There is no verbal distinction to be found in the claims based upon the presence of the word "hatching". The word "hatching" in common parlance, has been used to designate the entire period of twenty-one days and is therefore synonymous with "incubating" (James R. p. 491-493; 328-9; 446-7). Scientifically, the word "hatching" may be used to indicate the actual emergence of the chick from the shell, but this is not the way the word is used generally or the way in which it is used in the patent. It is natural to say that the hen is hatching eggs during the whole time that she sits on the nest, and one would not maintain that during the first 18 days she was not "hatching" the eggs, but "incubating" them.

In the *Snow* case, this Court used the words in their general and accepted sense, as is shown by the following quotation:

> "the Smith Patent * * * for an improved apparatus and method for the *incubation* of eggs" (p. 3),

and

> "Only so much of the patent as relates to a *method for incubation* is now involved. Correct appreciation of the contentions made requires a brief exposition of the well-known phenomena which attend the *incubation* of eggs under natural conditions.
>
> The period for *hatching* eggs of the domestic hen is twenty-one days. The eggs are cold at the beginning of the period of *incubation*, although at that time generation has already progressed slightly. Continuation of this process and successful *incubation* depend upon the application of heat to the eggs, and the maintenance of their temperature at not less than body heat, about 100° F., and not more than 105° F. Any substantial

> divergence from this range of temperature results in deterioration or death of the embryo, and consequent failure of the *hatching* process'' (p. 3 and 4).

The claims call for a process of ''hatching'' in which the heat units are transferred from eggs in a ''more advanced stage'' of incubation to those in a less advanced stage. It is particularly to be noted that the comparative term ''more advanced'' is used, *not* the superlative ''most advanced''. This is significant because respondents insist upon a limitation of the claims to the transfer of heat from the eggs in the *most* advanced stage. In respondents' incubators, the complement of eggs is about equally divided between eggs in the heat generating or ''more advanced'' stage and eggs in the ''less advanced'' or heat absorbing stage. This is all that is required to effect a transfer of heat units from ''eggs in the *more advanced* stage of incubation to those in a less advanced stage.''

Neither District Court was misled by the attempt to avoid the Smith patent on the eighteen day defense. In the *Hall* case Judge Hincks said:

> ''I am unable to adopt such a stilted construction which would so narrow the disclosure of the claim as to deprive it of all value'' (R. p. 223).

And in the *James* case Judge Knight said (R. p. 1264):

> ''There is no question but that the defendant uses the method of the Smith patent up to the time that the eggs are removed to a separate compartment for the last three days of the incubation period and the emergence of the chick. The removal of the eggs previous to the completion of the incubation period will not avoid infringement, the defendant having used the principles of the Smith invention but to less than their full extent.''

The District Courts in these cases were in agreement on this point with other District Courts in the decisions appearing in the Hall record at the pages noted, as follows:

Judge Baltzell (D. C. Ind.), *Smith* v. *Sims* (R. p. 167);
Judge Joyce (D. C. Minn.), *Smith* v. *Street* (R. p. 172);
Judge Baltzell (D. C. Ind.), *Smith* v. *Johnson* (R. p. 176);
Judge Molyneaux (D. C. Minn.), *Smith* v. *Street* (R. p. 180);
Judge Vaught (D. C. Okla.), *Smith* v. *Hankins* (R. p. 185);
Judge Geiger (D. C. Wis.), *Smith* v. *Le Mieux* (R. p. 189).
Judge Tuttle (D. C. Mich.), *Smith* v. *Kribs* (R. p. 193).

POINT VI.

The Smith patent is not invalid because of insufficiency of disclosure.

In the *James* case, the usual assemblage of prior art patents was presented, but as these added nothing of substance to the art cited by the defendants in the *Snow* and *Waxham* cases, no comment on them here is required.

In the *Hall* case, respondent's counsel discovered a mare's nest in those parts of the specification of the Smith patent where the temperatures are set out. The specification of the patent recommends that the "temperature of circulating air should be such as will prevent the eggs in the early stage of incubation from falling below 100°" (p. 1, ls. 40-43), and again at line 78, page 2, the specification says that the temperature of the chamber should be "between the limits of 100° and 105°." It is quite evident from these two quotations that the patentee thought the temperature of the air and the temperature of the egg were the same. As stated by Taggart (Hall R. p. 47), this was the general belief of the time.

As noted below, approximately ten years after the issuance of the Smith patent, humidities were generally adopted which were considerably higher than those practiced at the date of the patent. This necessitated a modification of the temperature, so that instead of 100° F., 99° F. is now used with the modern humidity.

The suggestion that there is involved in the statement of temperatures in the Smith specification an attempt to conceal the process or to mislead or deceive the public is far fetched to the point of lacking all substance. The specification of the Smith patent contains directions which are amply sufficient and definite for the practice of the patented process if the humidities of 1918 are employed, a conclusion which is implicit in the opinions of this Court in the *Snow* and *Waxham* cases and those of all of the other courts which have passed upon the Smith patent.

The precise temperatures are not made essential requisites of the invention by the claim, and it is the claim, not the specification, which defines the scope of the protection afforded by the patent.

There is no element of novelty in this argument of counsel for the respondent Hall. The same matter of specific temperatures was the subject of discussion in the earlier stages of the *Waxham* suit (Waxham R. p. 604), though it was dropped completely later.

The facts of importance in connection with this matter of specific temperatures are simple and readily understood. The process of artificial incubation has been the subject of refinement and perfection of detail steadily ever since the grant of the Smith patent. One respect in which there has been such refinement and improvement is that the humidity within the incubator has been increased so that the eggs are incubated in a more humid atmosphere. With this increase in humidity, it has been found desirable or even necessary to reduce the temperature a very small

amount, that is, a little below the specific temperatures stated in the Smith specification and at the time of the Smith invention considered to be the temperatures most desirable for incubation. This is covered by the testimony of plaintiff's witness, Taggart, at pages 47 to 49 of the Hall record.

With the lower humidities used by Smith and by the art generally at the time of the Smith invention, the temperatures stated in the Smith specification were appropriate and the Smith process as so employed operated perfectly. Up to 1928 when the higher humidity came into general use, Smith and his licensee, The Buckeye Incubator Company, had operated successfully over a long series of years at temperatures within the range stated in the specification (Hall R. p. 49).

In the effort to support its contention on this point, counsel for Hall have attempted to make use of the statement of plaintiff's witness, Taggart, that

> "if you subjected eggs to such a temperature of air that they do not fall below 100° F. in the early stage or first ten days, it would be fatal to practically all of the eggs" (Hall R. p. 47).

without completing the quotation or otherwise calling attention to the fact that the statement was predicated upon "with our present knowledge and *present humidity*". The witness' meaning is brought out so clearly in the course of his testimony on pages 47 to 49 of the Hall record as to admit of no misapprehension and the District Court experienced no difficulty with it, as is shown by its Fact Finding No. 4 (Hall R. p. 214) and its third Conclusion of Law (p. 222).

All that is required of the patentee is that he shall give sufficient disclosure so that one skilled in the art can prac-

tice the invention.* Addressing himself to the skilled in the art at the date of his patent, Smith gave the proper instructions by which his invention could be successfully practiced. He did not envision that increased humidity would require a modification of his then instruction, and no rule of law requires such foresight.

CONCLUSION.

The foregoing comments on infringement and sufficiency of the Smith specification are submitted as a basis for rejecting contentions of respondent's counsel which were briefed and argued in the Court of Appeals but received no comment in the opinion of that Court. We are satisfied that there is no merit in them for the reasons pointed out and it may be that they will not be urged here.

The Hastings defense is the only matter of defense for which respondents have the support of any Court, and on that it is the support of only one Court of Appeals in a view opposed to the conclusions of two other Courts of Appeals and many District Courts, the latter including three wherein the trial Judges had the distinct advantage of observing and hearing the important witnesses.

This Hastings' defense presents no element of novelty. Instead, it is a commonplace and usual instance of attempting to make what was an obvious failure appear to be something of real consequence. The facts detailed in the foregoing establish that Hastings was one of those who tried

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*_Sun Ray Gas Corp._ v. _Bellows Claude Neon Co._, 49 F. (2d) 886 (C. C. A. 6);

Donner v. _Sheer Pharmacal Corp._, 64 F. (2d) 217 (C. C. A. 8);

Franc-Strohmenger & Cowan v. _Arthur Siegman, Inc._, 27 F. (2d) 785 (C. C. A. 2);

Standard Paint Co. v. _Bird_, 175 Fed. 346, aff. 182 Fed. 1023 (C. C. A. 2).

over a series of years and at various places to achieve successful commercial mass incubation and failed.

There can be no doubt but that Hastings failed. The end in view was the production of an incubator and a method of operation which could be used commercially for profitable operation. That goal was never reached by Hastings.

Throughout his work he was groping. That is indicated by the fact that each incubator he built was different from its predecessor. There was no *fundamental* conception underlying his efforts other than the employment in incubation of the principles of cold storage preservation and utilization of a fan for the circulation of air. Any constructive thought extending beyond those elementary principles is conspicuously absent from all that he did.

Each one of his several distinct efforts is strikingly similar to all the others. In each he built an incubator with entire freedom to develop all the ideas he had, unhampered by others. Each incubator was tried and found deficient. Each incubator was abandoned and then Hastings moved on to another point to make a similar abortive effort with an altered construction and method of operation but with no recognizable progress toward success.

At one time early in this series of attempts he thought that the ideas he had evolved on mass incubation amounted to invention and so he applied for a patent. The application was subjected to the usual examination in the Patent Office and was found to present no novel idea amounting to invention, so patent protection was refused and the application for patent, like the incubators Hastings built, became abandoned.

Thus in every respect, incubators, patent application and all, Hastings' efforts were failures which were as complete as any such efforts ever are. He never succeeded in getting beyond the stage of experimentation, and, with the discontinuance of his several efforts, what he did went into the category of abandoned experiments where they have remained ever since.

This summary of Hastings' efforts is in accord with the views expressed by all of the courts which have passed upon this Hastings defense excepting only the Court of Appeals in these cases.

Thus Judge Westenhaver said in the *Wolf* case:

> "It cannot be said that either his" (Hastings) "method or apparatus had passed beyond the experimental stage or solved the problem later solved by Smith. It does not appear that he has contributed anything to the ultimate solution of the Buckeye type of incubator" (*Buckeye, etc., Co.* v. *Wolf*, 291 Fed. 253, 258).

Judge Bodine said in the *Cooley* case (Appendix p. vii, viii):

> "The reasoning of the Hastings prior use is not persuasive against the patent. Smith never lost sight of results. Hastings never seems to have procured results. He built one sort of an incubator and the next year changed to another. The following year he built another kind of incubator and so on. Business success never followed his adventures. • • •
>
> "Hastings was and is boastful. Convincing proof of his alleged method and device is certainly lacking. Success never rewarded his attempts."

The Circuit Court of Appeals for the Third Circuit said in the *Cooley* case (17 F. [2d] 455):

> "Hastings and Smith, the patentee, no doubt saw the same incubating problems, but Smith pursued a solution directly opposite that of Hastings."

The Master said in the *Stone* case (Appendix, p. xix):

> "In view of the previous state of the art, it cannot be said that either Hastings, Lowery or Smith had

contributed to its advance until such time as they had described a method with sufficient clearness and precision to enable one versed in such matters to understand what the process was, and a practicable way to put it into operation. Neither the apparatus of Hastings or Lowery were practicable and did not meet the problem involved."

Judge Hincks in the *Hall* case at bar (p. 222) said:

> "Moreover, on the record submitted in this case, if the method of Claim 1 was in fact used at all, for aught that appears it was promptly forgotten, only to be recalled in connection with the litigation that followed the Smith patent. Such a use, contributing nothing to the store of human knowledge, does not negative novelty. *Gaylor* v. *Wilder,* 10 Howard 477; *Diamond Patent Co.* v. *S. E. Carr Co.,* 217 Fed. 400. Nor do the defendants negative novelty by proof of 'only a casual use, abandoned thereafter and never entering into the art until after the patent in suit was applied for',—in this case an interval of over five years. *Concrete Mixing Co.* v. *Powers-Kennedy Contracting Corp.,* 27 Fed. (2nd) 688."

The Court of Appeals presents in the instant cases the one view opposed to the concurring conclusions expressed in the foregoing extracts and in the action taken without further comment on the Hastings defense by the Court of Appeals for the Sixth Circuit, by Judge Knight in the *James* case, by Judge Baltzell in the *Sims* case, and by Judge Molyneaux in the *Street* case.

The Court of Appeals was led to adopt this erroneous view, we are persuaded from its opinion, by misapprehension of many of the pertinent facts. For instance they were led to adopt the view that the Brooklyn incubator was operated through two hatching seasons, when the fact is that it was operated only two months in one hatching

season (1911), and that the Muskogee incubator was operated through two hatching seasons whereas the fact is that it was operated in one hatching season (1912) only with one unsuccessful attempt by others than Hastings, and with only one setting of eggs, in the next season (1913). Also the Court of Appeals understood that the Muskogee incubator was a duplicate of the Brooklyn incubator though the fact is that they were radically different both in construction and method of operation.

The Court of Appeals appears to have been led to its erroneous view primarily by the Hastings application for patent and the documents filed in the Patent Office in connection with it. The facts that the application was found not to disclose novelty and was rejected by the Patent Office and was abandoned by Hastings, appear to have been disregarded as unimportant, and the brief filed by attorneys representing Hastings was given an entirely erroneous and unjustified meaning, whereas its proper meaning becomes apparent when one reads it in connection with what Hastings did at Muskogee shortly before the brief was written.

Most of all, the Court of Appeals failed entirely to give appropriate significance to the outstanding fact that the whole of Hastings' effort was entirely barren of successful achievement. It involved only loss of all the time Hastings devoted to it and all of the money invested in it by others. Of practical results in the production of revenue and in the commercial hatching of eggs for the public, there were none. In respect to these items there is striking contrast between Hastings and Smith, and this contrast is of vital consequence here.

Events in the history of mass incubation in the United States over the past 25 years about which there is and can be no dispute, make it as plain as it ever is that there was

no real contribution by Hastings and no advance whatever in practical incubation resulting from anything he did.

We respectfully submit that the decisions of the Court of Appeals in the present cases should be reversed, and the decrees of the District Courts reinstated.

Respectfully submitted,

CHARLES NEAVE,
DEAN S. EDMONDS,
ALBERT L. ELY,
Counsel for Petitioner.

Dated, September 25, 1936.